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NEGOTIATION TECHNIQUE
IN PRICE DETERMINATION

By

Richard J. Donzell

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CHAPTER I

INTRODUCTION

General Comments

Since military procurement is accomplished by the use of public funds, the question of how the procurement is done is of vital importance to the public interest. Such procurement is accomplished in a business environment in which prices are the result of a number of complex forces which do not necessarily result in the traditional concept of market prices. Market prices have been conceived of as being reasonable because competition has set the upper limitations of self-interest.[1] Since very little military procurement is purchased under conditions of a market price, it behooves us to look for other measurements of the reasonableness of prices.

For example, in F.Y. 1967 (July-September) out of a total of \$3.4 billion of direct purchases within the Department of the Navy, almost \$2.8 billion was negotiated compared to \$.6 billion purchased through advertising.[2] It is for this reason that the negotiation process is examined as an alternative device.

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[1] U. S. Department of Defense, Defense Procurement Handbook, U. S. Army FM 38-3, U. S. Navy NAVMAT P-12410, U. S. Air Force AFP 70-1-6, Defense Supply Agency DSAH 4105.1, 1 July 1965, VIII, pp. 1-3.

[2] U. S. Department of the Navy, Headquarters, Naval Material Command, Survey of Procurement Statistics, NAVMAT P-4200, September 1966.

Reasonableness of prices can be assured only when established and applied by reasonable men who intend to examine all the pertinent circumstances of the procurement. Negotiation does not assure but rather provides the opportunity of reasonable consideration and thus can be used as a pricing method to serve the best interests of the public.

Purpose

The purpose of this paper will be to examine the research question of how incentive contracting can provide the means for negotiating an agreement whereby both parties have the opportunity for optimizing their interests.

In the course of examining the research question it will be necessary to evaluate and consider related questions involving the concept, process and organization of negotiation and its interrelationship with incentive contracting. Subsidiary questions will be considered as follows:

1. What factors should be considered in pre-planning and planning the negotiation session?

2. What types of analytical tools are available to the government negotiators and how can they be used effectively?

3. How are government objectives established and strategies executed to reach the negotiation objective?

4. Does incentive contracting provide the element of flexibility sometimes needed to reach a mutually satisfactory agreement?

5. What part does trade-off analysis play in providing an

opportunity for both parties to optimize their interests?

6. What is the relationship between cost reliability and incentive contracting?

It is not the purpose of this paper to examine all of the various types of incentive contracts used by the government. This paper will therefore be limited to discussion of a multiple incentive contract in the pre-planning negotiation phase followed by the use of a fixed-price incentive contract in a hypothetical negotiation session.

Approach

The process of negotiation, in its broadest aspects, deals with activities concerning fact-finding, analysis, planning, communication and strategy which are interrelated with the parties' personal skills, attitude and teamwork. The approach used in this paper will be to develop an understanding of the concept, process and organization of procurement by negotiation through the evaluation of these activities.

The concept and use of incentive type contracts will be examined in order to establish a relationship with the negotiation process. The use of a fixed-price incentive contract will be compared to other major types of government contracts in order to place it in its proper perspective.

Next, the activities and factors involved in the preparation and planning for the negotiation session will be discussed. Factors concerning the procurement situation and the contractor's proposal will be analyzed. With the

centralization of the audit function and the partial centralization of the contract administration function by Secretary McNamara, the contracting officer must often look to these new organizations for information and assistance in planning the negotiation session. The approach to be used in this paper will be to view certain inputs from such activities as they apply to a hypothetical procurement situation. The need for planning a negotiation objective as well as other positions will be examined. Reasonable approaches to the establishment of such objectives and positions will be explored. The use of trade-off analysis will be considered as a means of evaluating the contract's essential incentivized elements. By fragmentizing the elements of the contractor's proposal into issues the contracting officer will be better equipped to plan his strategy. The variables inherent in planning strategy and the importance of flexibility will be investigated.

Finally, a discussion will be made of the area which this writer feels to be the essential evaluation of the whole negotiation process; namely, the negotiation session. At this point the culmination of all of the pre-planning factors will ultimately determine the level of performance in reaching reasonable solutions. The use of the exploratory session and the establishment of an agenda will be considered as methods contributing toward the attainment of mutual agreement. A hypothetical situation will be discussed in which the parties, unable to reach agreement on a firm-fixed price contract, turn to a fixed-price incentive contract as an alternative solution.

Methodology

The method of presentation will consist of qualitative discussion of negotiation techniques under variable situations through the pre-planning and planning stages. The negotiation techniques will then be related to the use of multiple incentive and fixed-price incentive features for purposes of illustrating the extent in which the planning phase is subject to quantitative analysis. Graphs and charts are used where appropriate in order to illustrate the techniques more clearly.

Research has primarily consisted of gathering information from government publications and interviews with personnel involved in government contract negotiation and administration. Library research of non-government publications and articles was used primarily to gain further insight into those areas concerning negotiation, strategy, decision-making and group behavior. Personal knowledge acquired from formal schooling in contract administration and experience gained in price-cost analysis was also a contributing factor.

Concept of Negotiation

In military procurement the term, negotiation, has a rather loose meaning. In general it means any pricing method other than advertised procurement.[3] The concept of negotiation needs to be examined in its broader aspect so that the true nature of this tool of price determination can be studied more precisely.

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[3] Defense Procurement Handbook, op. cit., IX, pp. 1-2.

Gordon Wade Rule defines negotiation in his book, "The Art of Negotiation", as "a peaceable procedure for reconciling, and/or compromising known differences". The definition provided by the U. S. Air Force School of Systems and Logistics is a little more explicit in defining negotiation as "a tool of decision-making by two parties or groups who represent opposed viewpoints or interests concerning the subject matter at issue, but who are also interested in reaching a meeting of minds for a certain period of time by a specialized process of communication called bargaining".

In price negotiation the buyer and seller have opposed interests concerning the level of the price. A negotiator who does not understand the nature of the interest he represents or is not willing to defend such interest to his utmost capability should be disqualified as a negotiator. Mutual agreement in the end can be satisfactory to both parties only when the differences of viewpoints are thoroughly aired in the process. If it is understood by either party that negotiation is essentially a process of "giving in", he is thereby thinking in terms of sacrificing his interests. Negotiation is not a process of mutual sacrifice for the sake of agreement. Rather, it is a process of finding a formula whereby both parties will have the opportunity to have their interests optimized. One approach is by bringing out prominently, the common advantages to both parties of any proposal, and linking these advantages so that they appear equally balanced to the parties concerned.

Of course if the negotiators' objectives are very close or

even coincide, their task of reaching agreement is thereby greatly simplified. However, there may be significant differences between the objectives of both parties in which case the element of flexibility becomes an important determinant in obtaining concessions leading to a satisfactory agreement.[4] One approach in using flexibility as a tool of negotiation is incentive contracting.

The Process of Negotiation

It is not enough to say that the negotiation process is that of communicating around a negotiation table. The scope of the negotiator's activities is much broader and more inclusive. In its broadest aspects the activities center around two main divisions: (1) pre-negotiation planning and (2) negotiation.[5] The first includes the activities of fact-finding, analysis, and planning; the second, executing the plan at the negotiation table, involving mostly the skills of communication and carrying out strategy.

Pre-negotiation activities should be started as soon as requirements are known to establish a procurement plan. At this point fact-finding has started. Certain facts are necessary at this point so that a thorough job can be done when planning the requests for proposals. When the proposals are received and certain potential contractors are selected, assignments for fact

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[4] Gordon W. Rule, "The Art of Negotiation", (unpublished, private printing 1962), pp. 5-8.

[5] Defense Procurement Handbook, op. cit., IX, pp. 33-37.

gathering and analysis should be made. Team members should receive definite assignments. The information to be obtained and the sources should be planned. Management of the fact-finding process is important, for it is at this point that much time and effort can ultimately be saved in the exploratory session during negotiations.

In the case of forward pricing contracts, pertinent information is usually in terms of the procurement situation, the anticipated terms and conditions of the contract, total price comparisons, historical cost data of the company involved or costs of similar projects performed by other contractors. Proper use of price/cost analysis discourages "haggling" and provides an essential basis for adequate negotiation. Haggling aims at price reduction for its own sake; negotiation aims at determining a fair and reasonable price.[6]

With the advent of Project 60 where the audit function of the individual services became centralized under the Defense Contract Audit Agency (DCAA) and much of their contract administration functions were consolidated under the Defense Contract Administration Services (DCAS), the procurement contracting officer finds that he may now request assistance from either source, or both, covering almost all phases of contracting. When analysis has been completed in terms of projections, the pre-negotiation team is ready to make specific

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[6] U. S. Department of the Navy, Office of Naval Material, Negotiators Handbook, NAV EXOS P-1001, March 1958, IV, pp. 1-5.

plans for the meeting with the chosen contractor.

The Organization of Negotiation

The level of performance of a negotiation depends upon personal skills, attitudes and teamwork. As stated previously, the skills of fact-finding and data-analyzation are of paramount importance to perform negotiation on a professional level. No team can hope to attain any degree of sophistication in its performance unless the planning for the use of facts has been given maximum consideration from all aspects. This involves a thorough knowledge of the contract specifications; the applicability and appropriateness of various incentive structures, as well as trade-off analysis.[7]

In spite of such preparations, negotiation performance may still be on a less than desired level unless individual team members exhibit attitudes which contribute toward reasonable solutions. For purposes of this paper, it is assumed that a group goal has been carefully and clearly stated and that each member has subordinated personal goals to that of the team. Clovis R. Shephard in his book, "Small Groups; Some Sociological Perspectives" states, "Generally a successful group has clear objectives, not vague ones, and the members of the group have personal objectives which are identical or compatible with the group's objectives."

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[7] U. S. Department of Defense, Office of Assistant Secretary of Defense, Installations and Logistics, Incentive Contracting Guide, U. S. Army FM 38-34, U. S. Navy NAVMAT P-4283, U. S. Air Force AFP 70-1-5, Defense Supply Agency DSAH 7800.1, January 19 1965, VIII, pp. 95-118.

The organization for negotiation management is the negotiation team, composed of men who have duties in other organizational structures. However, once the team has been organized each man has an assigned function with the chief negotiator as the manager. His management functions occur in two areas: the management of fact-finding and the management of negotiations which implicitly requires the organizing of facts and the handling of men.

Concept and Use of Incentive Type Contracts

Incentive type contracts should, when properly structured, reward the contractor by increasing his profit if costs are reduced and product performance and delivery improved, and penalize him by reducing the profit if costs increase and product performance and delivery goals are not met. It should be noted, however, that product performance and delivery incentives fall under the category of multiple incentive contracts, and should be used only when improvement over stated minimum acceptable performance or delivery terms has a measurable worth to the government.

Use of incentive contracting in the government is predicated on several assumptions. First, there are risks for both parties in the government-industry contractual relationship, just as there are in private business. Second, both parties are going to assess the risks and determine for themselves whether they can afford to take those risks. Lastly, financial gain is the prime objective of the private party to the government contract.

Incentive contracts are an attempt to harness the drive for financial gain under risk conditions, and make it work in the arena of government contracting. The profit motive is therefore the essence of incentive contracting.[8]

There are other important factors besides profit that the negotiator for the government must consider.[9] The contractor's interests may lie in gaining future business. He may desire to increase profits on existing contracts by absorbing a portion of the fixed overhead expense which ultimately results in increasing the profit margin under those contracts. Other considerations may be such factors as contributing to and improving the nation's defense posture, gaining prestige and goodwill, retaining and maintaining an engineering or production capability or excelling for the sake of excellence. Such factors are not readily susceptible to quantification and normally involve purely intuitive judgments. These factors should be considered to the extent possible in the pre-award stage but excluded from the incentive structure incorporated into the provisions of the contract. However, such factors should be considered prior

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[8] Interviews with William J. Ryan, Head, Planning Branch, Director Chief Naval Material, Procurement, November 25, 1966; Frank M. McDade, Director, Directorate of Contract Administration Defense Contract Administration Services Regional Office, Chicago, January 23, 1967; Peter J. Thomas, Chief, Price/Cost Analysis Branch, Defense Contract Administration Services Regional Office, Chicago, January 24, 1967; Herbert Fisher, Chief Financial Services Division, Defense Contract Administration Services, Alexandria, January 27, 1967.

[9] Interview with Herbert L. Fisher, Chief, Financial Services Division, Defense Contract Administration Services, Cameron Station, Alexandria, January 27, 1967.

to making awards, and when possible, while structuring the incentive provisions since they may outweigh the profit incentive and would override the control incentives. This is especially important when making trade-off analysis. By limiting the function of the incentive contract to the profit incentive, its purpose can be understood more readily, and its effectiveness can be evaluated more explicitly.

The use of incentive contracts has greatly increased since March 1962 when the Armed Services Procurement Regulation was revised.[10] This change restates the rules governing the selection of the proper type of contract including the applications and limitations of each type. During the last four years there has been a substantial increase in the use of incentive contracts in defense procurement as shown in the following statistical analysis:

ALL NAVY:	Percent of Dollar Purchase[11]		
	FY 1962	FY 1966	FY 1967*
Cost-plus-fixed-fee (CPFF)	21.2%	14.2%	9.3%
Cost-plus-incentive-fee (CPIF)	.1%	4.5%	9.1%
Fixed-Price-Incentive (FPI)	16.9%	16.5%	24.4%
Other Types	61.8%	64.8%	57.2%

*First Quarter FY 1967.

Since there are various types of incentive contracts used by the Department of Defense, the author has limited discussion to a multiple incentive type contract in part of Chapter II,

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[10] Revision 8 to the 1960 edition of ASPR.

[11] U. S. Department of the Navy, Headquarters, Naval Material Command, Survey of Procurement Statistics, NAVMAT P-4200, June-September 1966, and the Office of Naval Material, NAVEXOS P-1573, June 1962.

followed by a straight cost fixed-price-incentive contract in subsequent discussion. A multiple incentive type contract was chosen for illustrative purposes since it encompasses most contractual aspects of quantitative analyses within the scope of pre-planning the negotiation session. A straight cost fixed-price-incentive contract was selected since it would be the next most logical consideration in the event a firm-fixed-price contract could not be negotiated due to questionable aspects of the specifications or cost reliability. Additionally, a fixed-price-incentive contract, restricted to a straight cost incentive without delivery and performance incentives simplifies, for illustrative purposes, just how incentive contracting can provide the needed flexibility so often needed to reach an agreement.

However, discussion of four of the major types of contracts, presented in the order of greatest risk to the contractor, is considered to be appropriate before proceeding further in order to provide the reader with an overall perspective of the government's desires and limitations for the general types of contracts involved. Additionally since a fixed price incentive contract is to be used in subsequent discussion, it will serve to clarify that particular type of contract's relationship with the others.

Firm-Fixed-Price Contracts

A firm fixed-price contract is an agreement to pay a specified price when the items called for by the contract have been delivered and accepted. Normally, there is no price

adjustment made for the work after the contract has been awarded, regardless of the contractor's actual cost experience in performing it. The contractor has assumed all financial risks of performance and his profits depend entirely on his ability to control costs. The government does not bear any of the contractor's risk of loss under the contract with the implication being that the contractor is provided with the maximum incentive to avoid waste and to use production and/or subcontracting methods that will result in savings to labor and material costs. The government particularly favors this type of contract since it is relatively easy and inexpensive to administer.[12] Additionally, there is no necessity for the government to monitor the contractor's costs so that he does not have to conform his accounting procedures to DOD audit procedures. This results in lowering his administrative costs and ultimately the government's cost of contracting.

This type of contract, when negotiated and not formally advertised, is appropriate if any of the following conditions exist: historical price comparisons can be made; available cost or pricing data permit realistic estimates of probable performance costs; or contract performance uncertainties can be so clearly identified that their impact on price can be evaluated. If none of these conditions exist, the use of

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[12] Armed Services Procurement Regulation, The 1963 Edition, Washington: U. S. Government Printing Office, 1963, 3-404.2. Hereafter cited as "ASPR".

incentive features may be appropriate.[13] However, there is often a very fine line of interpretation as to what is "clearly defined" or what constitutes a "realistic" estimate of probable performance costs between the government and contractor negotiators. This is where incentive contracting may provide the flexibility necessary to negotiate, provided that the government negotiator believes there is some merit to the contractor's reluctance to bargain further.

During the first quarter of fiscal year 1967, firm-fixed price contracts accounted for 47.8% or $1.6 billion of the total direct purchases made in the Navy, while fixed-price incentive contracts accounted for 24.4% or $793 million dollars.[14] While FFP contracts are highly desirable, it is not always possible to negotiate. The next logical consideration for the contracting officer is the FPI contract.

Fixed-Price-Incentive Contract

Unlike the FFP contract, a FPI contract involves the negotiation of more than the one element of total price. The following elements of a FPI contract must be negotiated by the government and the contractor before awarding the contract.[15]

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[13] Ibid.

[14] Survey of Procurement Statistics, op. cit., pp. 20-21.

[15] Incentive Contracting Guide, op. cit., pp. 4-5.

Target Cost (TC) - against which final costs are measured.

Target Profit (TP) - a reasonable profit for the work at target cost.

Ceiling Price (CP) - the total dollar amount for which the government will be liable.

Sharing Arrangement (SA) - the arrangement for establishing final profit and price.

The government and the contractor negotiate the final costs of the contract, sharing the overruns or underruns according to the agreed-upon arrangement, after the work is completed. Using a simple illustration, assume that a target cost for a contract is $100, the target profit is $10, the ceiling price is $120 and the sharing arrangement is 80% (government) and 20% (contractor). Under this arrangement, the contractor would keep 20% of every dollar saved. To earn a profit of $11, therefore, he would have to reduce costs by $5 below target cost ($10 + 20% X $5). If he overran by more than $20, he would lose money, since there is no minimum profit guaranteed in this type contract. Therefore, no matter what the final cost to the contractor, he must meet the contractual specifications, and the government's liability cannot exceed the ceiling price of $120. For this reason the FPI contract should be used in preference to any cost reimbursement type contract whenever circumstances permit.[16]

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[16] Ibid.

Cost-Plus-Incentive-Fee Contracts

The sharing arrangement is also used in the CPIF contract and determines the amount of fee payable to the contractor on the basis of the relation between negotiated target cost and final total allowable costs. The main difference between the FPI and CPIF contract is that the latter does not contain a ceiling price but normally contains a maximum and minimum fee. If the minimum fee is eliminated, the contract, in effect, becomes a "cost sharing" type contract after a certain point. The CPIF contract therefore places 100% of the risk on the government up to the total cost of the work, with the only incentive provided to the contractor being the minimum versus the maximum fee.

A CPIF type contract may be used only after it has been determined that it is likely to cost less than any other type, or that it is not practical to procure the particular item or service in another manner. This type of contract is ordinarily used for Research and Development; when the work required cannot be definitized completely and its cost accurately estimated; when there is doubt that the work can be completed successfully; or when the specifications are incomplete.[17]

Cost-Plus-Fixed-Fee Contracts

The CPFF contract type provides the least incentive to the contractor to manage his cost and places 100% of the risk on

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[17] Defense Procurement Handbook, op. cit., V, pp. 19-21.

the government for the cost of work performed. The contractor receives his profit from the fixed fee negotiated with the government and this fee does not vary with the actual contractual cost. In 1962, the Department of Defense confined the fixed-fee arrangement to research studies and other contractual situations in which objectives could not be accurately defined.[18] When there is a strong probability that development is feasible or the government has generally determined its desired performance objectives and completion schedule, the CPIF contract should not be used.

Summary

The concept, process and organization of procurement by negotiation has been discussed in terms of providing an opportunity for obtaining fair and reasonable prices for both the government and the contractor, as an exception to the preferred method of formal advertisement. It has been shown that it is a decision-making process between two parties or groups with opposed viewpoints who are seeking a formula in which they will have an opportunity to optimize their interests. The process of negotiation, in its broadest aspects, deals with activities concerning fact-finding, analysis, planning, communication and strategy which are interrelated with the parties' personal skills, attitudes and teamwork. The culmination of all of these activities and skills ultimately

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[18] Ibid., p. 23.

determines the level of performance in reaching reasonable solutions.

Incentive contracting has been introduced as a tool of negotiation. A negotiation technique which, when related to the concept, process and organization of procurement by negotiation, may indicate how incentive contracting can provide the means for negotiating an agreement whereby both parties have the opportunity for optimizing their interests.

CHAPTER II

PREPARATION FOR AND PLANNING THE NEGOTIATION SESSION

Analyzing the Procurement Situation

Any procurement can be evaluated as being successful in relation to the situation in which it is accomplished. When preparing for the session in which the terms of the contract are determined, the team needs to make sure that the procurement situation is well analyzed. Post contract evaluation will be the ultimate judge of effectiveness in pre-planning the procurement situation.

Some of the factors affecting the procurement situation are the nature of the product, the state of the arts, the importance of time and the availability of information. Economic factors such as expansion or contraction of over-all economic activities, degree of competition, availability of resources or skilled manpower, the peculiarities of an industry and peculiar production problems are also pertinent considerations.[1]

Negotiators need not know the technical aspects of the product to any extent, but they should know the characteristics

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[1] U. S. Department of the Navy, Defense Procurement Management Course, (Boston: Harbridge House, Inc., 1964), TPM-3200R, pp. 20-24.

of the product, its design and performance characteristics, similarities and differences when compared to other products. The more thorough the knowledge of the product, the more effective the negotiation concerning it can be. When a procurement situation calls for the time element as being of prime importance, the cost elements based on past performance under ordinary circumstances become less useful as guides for pricing.[2]

The awareness of negotiating under conditions of economic contraction for the economy as a whole or for the industry presents different problems and bargaining advantages or disadvantages as compared to a condition of expansion.

Every procurement situation has a historical sequence which gave rise to the present situation. To understand the present circumstances, a negotiator must know what agreements have been made in the past concerning the items under consideration. Precedence is a powerful force in deciding issues although it need not be the deciding force.[3]

In each of the circumstances which becomes a part of the procurement situation the buying team must analyze these factors. Definite information concerning them may not be available but in each case judgment can be used as to their effect. The factors of the procurement situation are facts

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[2] Interview with Peter J. Thomas, Chief, Price/Cost Analysis Branch, Defense Contract Administration Services Regional Office, Chicago, January 24, 1967.

[3] ASPR, par. 3-807.2.

which must be used by the negotiator.

Analysis of the Contractor's Proposal

The bid proposal is a contractor's response to the buyer's request. The respondent to such a request faces a dilemma when constructing his proposal. It must be low enough to be chosen as a candidate for negotiation and yet high enough to be used as his initial position for negotiation purposes. An analysis of the procurement situation will reveal the extent of competition each respondent faced when working up his proposal. In the case of initial procurement a contractor is often willing to submit a proposal below estimated cost with the hope of being in a favorable position for subsequent follow-on contracts. If the intent in such a situation is obvious, it may become necessary to choose one or several companies on another basis than price.

Even though a cost breakdown is required in a request for proposal, it is seldom a truly estimated cost breakdown. Every proposal is the result of a decision in strategy, for every submitter faces the question, "How low must I go to receive an invitation to negotiate?". The answer to this question is as much a result of what a submitter believes his competitor's costs to be as his own. If the submitter has a real cost advantage over competitors, his proposal will reflect a position which he believes to be in the next most favorable cost advantage.

When requesting cost information for a proposal, the

request should be in sufficiently detailed breakdown so that unreal estimates can be detected.[4] The quantity of information requested may be judged on the basis of this standard. Any information required beyond what is necessary to meet this need is excess.

Since by far the greater share of military dollars are spent on contracts which require a high degree of cost analysis, it is of utmost importance to have sufficient cost information. For example, in the first three months of fiscal year 1967 there were 10,084 negotiated actions out of 734,552 which represented approximately $2.4 billion out of a total amount of $3.4 billion for all of the direct procurement actions within the Department of the Navy.[5] The need is not only that of obtaining historical cost data but there is a distinct need to apply the skill of projecting costs realistically so that a proposed cost may be judged critically. Regardless of the type of contract employed, it is the skill of good cost estimating which will, in the end, determine how reasonable a price was.

Input Available from DCAA and DCAS

There are two basic manuals which provide for all of the services available from these two activities: Contract Administration Manual for Contract Administration Services, DSAM 8105.1 and the Defense Contract Audit Agency Manual, DCAAM 7640.1. Assuming hypothetical bid proposals were received

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[4] Ibid., par. 3-807.3.

[5] Survey of Procurement Statistics, op. cit., p. 18.

in response to the request for proposals, the contracting officer would initiate certain actions.

First, he would review the bid proposals and analyze them. Those which were considered to be unresponsive to the data requested, unrealistic, or responsive but too high in relation to the others received, would not normally be considered for further analysis.

Second, assuming the bid proposals exceeded $100,000, he may decide to send the bid proposals with all supporting documentation to the Administrative Contracting Office of the Defense Contract Administration Services Regional Office located in the appropriate geographical areas of the contractors. Simultaneously, a copy of the bid proposals would be sent to the Defense Contract Audit Agency Regional Offices responsible for that particular contractor. He would specify to both activities exactly which areas of the proposals he desired analyzed, that is, cost analysis, financial capability analysis, price analysis, technical evaluation, quality assurance or property evaluation. He also would establish the deadline due date. The price/cost analyst at DCASR becomes the coordinator between DCAA and the internal components of the DCASR such as the production, legal, quality assurance or plant property specialists.[6] Most of these specialists would conduct their analysis in the contractor's plant, reviewing actual records,

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[6] U. S. Department of Defense, Defense Supply Agency, Contract Administration Manual for Contract Administration Services, January 1967, pp.85-97.

files and holding interviews as required.

Such DCAA/DCASR coordination results in an audit report incorporating written technical findings (technical reports are quantitatively oriented - not dollar recommendations) as to the government's position regarding the cost breakdown submitted by the contractor. The price analyst then reviews the audit and technical reports and performs a price analysis.

Since DCAA and DCASR offices are located near and often service the same contractors on a repetitive basis, a knowledge of the contractor's accounting system, delivery ability and past performance is developed which becomes a valuable aid in performing price/cost analysis. Additionally, comparative price/cost data may be available from other contractor's involved in the same industry located in the same geographical area. More realistic learning curves, for example, may be projected by the use of this knowledge. The price analyst must consider and justify all known factors in making his covering recommendations to the Procurement Contracting Office (PCO), including the economic factors pertaining to the industry as a whole as well as the local geographical conditions.[7]

The package submitted back to the PCO should contain all technical reports, the audit report and the covering price analysis report. The price analysis report should recommend a total cost to the government and may, if requested, provide a profit percentage based upon the risk factors inherent in the

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[7] Interview with Peter J. Thomas, January 24, 1967.

contract type utilizing the Weighted Guidelines furnished in the Armed Services Procurement Regulations.[8] If the request for proposal called for minimum and maximum levels of performance and delivery, then each level would require a price/cost analysis.

Planning the Negotiation Objective

Since every organizational effort must be planned in terms of an objective, the negotiation team too must plan its negotiation objective. Without one, the team will flounder and may settle for conditions which do not optimize the government's interest. Price objectives can and should be planned in terms of definite dollar amounts which reflect the evaluation of all the terms and conditions of the intended contract.

The contract type becomes a major consideration for the contracting officer.[9] Since the government is in the business of buying specially designed equipment, it may find it necessary to define many factors such as: performance goals, design approvals, quality-assurance measures, test procedures and schedule objectives. Each added requirement may increase the risks, therefore the costs of the work. The contractor must weigh these factors carefully in deciding whether to compete for the job. Within certain limits, he may be willing to accept more risk for greater profit, beyond which, he will want

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[8] ASPR, par. 3-808-2.

[9] Ibid., par. 3-803.

the government to share the risk. This balancing of financial risk and reward underlies the contracting officer's choice of a contract type.

By contract type is meant the pricing arrangement for allocating the risks and rewards of the work. The most fundamental difference is whether the contract is cost-reimbursement of fixed-price. A cost-reimbursement contract requires the contractor to accomplish the work within the estimated cost of the contract. If the work is completed within the estimated cost, the contractor is entitled to the fixed-fee. Fixed-price contracts are based on the reverse of this principle since the risks of the work are assumed by the contractor in exchange for profit. If he can better the price, the reward is his and if he exceeds the price, the risk is also his. In any event the contract type is an item to be negotiated within the various restrictions imposed by the Armed Services Procurement Regulations.

Basic guides to types of contracts associated with degrees of reliability in the cost estimated generally may be expressed as follows:[10]

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[10] Interviews with William J. Ryan, Head, Planning Branch, Director Chief Naval Material, Procurement, November 25, 1966; Frank M. McDade, Directorate of Contract Administration, Defense Contract Administration Services Regional Office, Chicago, January 23, 1967, and Herbert L. Fisher, Chief, Financial Services Division, Defense Contract Administration Services, Alexandria, January 27, 1967, confirmed the acceptability of the Degrees of Reliability by contract type as basic guidelines. The basic guidelines were first proposed by Ralph C. Nash, Incentive Contracting, as depicted in Government Contract Monograph No. 7, Government Contract Program, The George Washington University, 1963, p. 71.

Degree of Reliability	Contract Type
90% to 100%	Firm-Fixed-Price
80% to 95%	Fixed-Price-Incentive
70% to 85%	Cost-Plus-Incentive-Fee
Under 70%	Cost-Plus-Fixed-Fee

If the government's and contractor's estimates of the cost to perform any aspects of the contract cannot be reconciled to within 30% of each other, those aspects should be excluded from incentive considerations. The Firm-Fixed-Price contract places 100% of the risk on the contractor. Risk to the contractor will decrease while increasing for the government as one proceeds down the foregoing list of contract types.

The government team now examines the pricing package received from the various DCASRs and it is assumed, for purposes of this paper, that the lowest bid is considered responsive and contractually acceptable. This may not be the case if the low bidder's cost estimates are found to be incomplete, in error or there is historical evidence of poor contractual performance or delivery. The price analyst's report should recommend a minimum, maximum and target objective substantiated with the rationale used in the analysis of each line item of the contractor's cost estimates.[11] The PCO's negotiating team must then review the total pricing package, resolving and coordinating all questionable items with the DCAA/DCASR team.

Trade-Off Analysis

Assuming that the proposal in question meets the criteria

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[11] Interview with Herbert L. Fisher on January 27, 1967.

for using multiple incentive contracts, that is, (a) the government has a definable, justified need for improved performance or early delivery and (b) it is possible to accomplish these improvements within the existing state of the art, then a trade-off analysis should be performed. This is necessary in order to assure a balance between worth and cost to the government. A multiple incentive contract requires a great deal of quantitative analysis in evaluating the contract's essential elements of cost, delivery and performance. This selection was made in order to emphasize the various considerations which may become necessary in evaluating and pre-planning the negotiation objective. However, discussion, subsequent to this section on trade-off analysis will be limited to changing from a FFP to a FPI contract in order to reach agreement. The FPI contract will contain only one of the three incentivized elements - cost, with performance and delivery assumed to be satisfactory to the government at the stated minimum in the contract.

Many techniques are available for performing trade-off analyses, some being extremely sophisticated and complex while others are relatively simple. Some of the more sophisticated techniques are: (a) NASA'S STOIC (Simplified Techniques of Incentive Contracting) and NOMATIC (Nomographic Aid to Incentive Contracting) techniques, which require the use of specially trained personnel,[12] and (b) the techniques developed by the

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[12] W. A. Hagen, NOMATIC-Nomographic Aid to Incentive Contracting, (Huntsville: George C. Marshall Space Flight Center) December 1965.

USAF Academy for performing systems analysis by computers, which should be utilized only on large dollar value systems procurements.[13] The following is a relatively simple nine-step technique which can be used by any contracting officer and which requires normally available sources of information such as those presented thus far in this paper.[14]

1. Establish the target performance and delivery as proposed by the contractor. Then minimum acceptable and maximum feasible or desirable performance and delivery levels must be established.

2. Establish the target cost for the target performance and delivery, on the basis of cost and price analysis of the contractor's proposal.

3. Establish minimum and maximum probable costs for attaining target performance and delivery. At this point, an incentive matrix as shown in Figure 1 should be drawn.

4. Using weighted guidelines, establish, (a) target fee or profit on the target cost, (b) maximum reasonable profit on

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[13] U. S. Department of the Air Force, The Evaluation and Structuring Techniques of Multiple Incentive Contracts, August 1966.

[14] This technique was developed by RADM J. L. Howard, Director of Procurement, Office of the Assistant Secretary of the Navy in conjunction with a member of his staff, Mr. William J. Platzer. It has been patterned after and is similar to the one presented by Harbridge House Inc. in Defense Advanced Incentive Contracting Workshops. Interview with William J. Ryan, Head, Planning Branch, Director Chief Naval Material, Procurement, November 25, 1966.

Figure 1

Multiple Incentive Contract Matrix

Source: Developed by RADM J. L. Howard, Director of Procurement, Office of the Assistant Secretary of the Navy in conjunction with a member of his staff, Mr. William J. Platzer. Interview with William J. Ryan, Planning Branch, Director Chief Naval Material, Procurement, November 25, 1966.

Incentized Element	Most Optimistic Position	Target (most likely) Position	Most Pessimistic Position
Performance (in Miles, or Points, etc.)	X + Y	X	X - Z
Cost (in dollars)	X - Y	X	X + Z
Delivery (in Weeks or Months)	X	X + Y	X + Y + Z

The contractor should be able to attain the most optimistic position in all incentized elements, at least at the outset, so he will work towards optimal profit and will not make trade-offs until well into performance.

Fig. 1.--Multiple Incentive Contract Matrix

the minimum reasonable profit on the maximum probable cost.[15] From these figures, a profit-swing effect-of-cost scale can be drawn, in which target profit would be represented as zero (neither award nor penalty), and which would look like the goal post chart shown on the left side of Figure 2.[16]

5. Establish penalties and rewards for attaining the minimum acceptable and the maximum reasonably feasible or desirable levels of performance and delivery. These rewards and penalties should be established on the basis of (a) worth to the government and (b) cost to the contractor. Normally, the worth to the government determination is made by the project manager. The contractor should propose the estimated cost to attain the minimum and maximum levels. If the maximum goals are realistic and reasonably attainable, then these cost proposals should now be subjected to cost and price analysis as was the original proposal. Again weighted guidelines should be used to establish reasonable profits on the total costs of accomplishing the most optimistic and pessimistic goals. This is to assure the existence of a sufficient true profit to actually motivate the contractor. Now, the profit-swing effect-of-performance and delivery scales can be graphically presented

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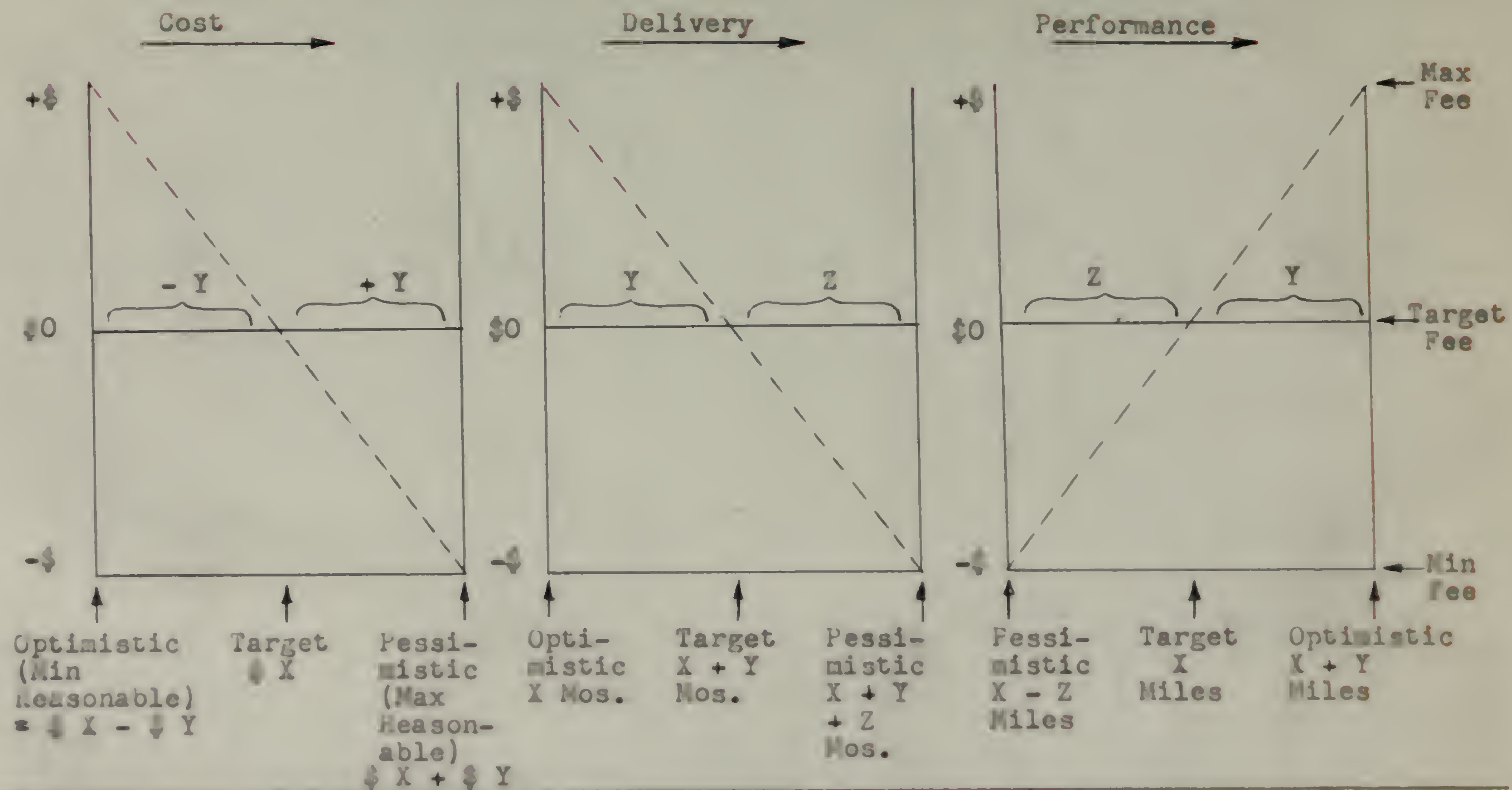
[15] In establishing reasonable profit or fee on less than the maximum allowable cost, the contractor's fixed overhead expense situation should be thoroughly analyzed in order to estimate how much incentive profit is required to motivate the particular contractor to reduce costs. Any billing for otherwise unrecovered overhead expense is as valuable as profit to the contractor.

[16] Incentive Contracting Guide, op. cit., p. 98

Figure 2

Incentive Goal Posts

Source: U. S. Department of Defense, Office of Assistant Secretary of Defense, Installations and Logistics, Incentive Contracting Guide, January 19, 1965, VIII, p. 98.



The vertical supports represent the dollar value of fee earned, high values at top.
The base (ground) lines represent measured cost time and performance, high quantities on right.
The horizontal crossbars represent target fees (a constant value).
The interrupted diagonal lines represent the actual fee earned directly above any point on the base line (resulting in a positive or negative "score" dependent upon whether the measured cost, time, or performance falls to the left or right of its target.

Fig. 2.--Incentive Goal Posts

on goal post charts as shown in Figure 2.

6. Compare the deviation from target price (contract cost plus fee or profit) associated with the minimum and maximum levels of performance and delivery to the deviation in contract worth to the government at these levels.[17] These two deviations, in terms of dollars, should be in balance. If the price the government would have to pay exceeds the worth, the range of incentive effectiveness should be cut back to where price and worth are in balance. If the worth significantly exceeds the price, the reward and penalty may be increased to give a greater incentive. When the worth exceeds the price of improved performance or delivery, an exact balance is not essential. Any adequate incentive will be sufficient to bring about the improved performance or delivery, and the opportunity for windfall profits can be reduced.[18] The danger of assigning

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[17] The "worth determination" concept has been developed and expanded by Mr. Ira F. Kuhn, Jr., of B-K Dynamics, Inc. The evaluation of the worth to the government of variations from target in product performance or delivery timing in terms of dollars, is essential so that it may be equated with incentive dollar rewards and penalties. The government must determine the dollar worth of any significant deviation in these variables, and the attainment of any goal. This worth determination is usually expressed in terms of direct costs, opportunity costs or savings, and alternative costs. Interview with William J. Platzer on November 25, 1966, and February 24, 1967.

[18] The opporunity for the contractor to gain windfall profits usually can be attributed to either (a) the state of the technological art having been significantly advanced subsequent to the time the specification and proposals prepared, or (b) a high reward being given for early delivery when in fact early delivery naturally reduces cost and increases profit due to the axiom that "time is money".

a lower incentive-reward value to the accomplishment than it is worth to the government lies in the likelihood of there being an invalid (low) estimate of the cost to attain the desired level. When the net loss to the government for below target performance or delivery exceeds the incentive penalties, it is essential that the penalties be increased.

7. Calculate break-even or trade-off points and translate these into a meaningful equation. The use of a "T" chart, Figure 3, is a valuable tool for this purpose. In this calculation, a fixed dollar amount of change in fee or profit is equated to the amount of change in cost, performance and delivery which would be required to effect the given change in fee. For example, a $100 increase in fee might result from either (a) a $500 decrease in cost, (b) a 5% increase in performance, or (c) a 5 week early delivery. Thus, the break-even equation would read:

$$\$500 \text{ (cost)} \cong 5\% \text{ (performance)} \cong 5 \text{ weeks (delivery)}$$

This break-even equation is therefore a quantified value statement and provides a built-in-instruction to the contractor showing him how to provide the government with the maximum value under this contract.

8. To assure an overall balance between the price to be paid and worth to be received by the government, the rewards and penalties are checked against the following equation:

$$\frac{\text{Additional \$ worth to the government of attaining all of the most optimistic goals over target}}{\text{Reduced \$ worth to the government of attaining all of the least optimistic goals under target}} = \frac{\text{Maximum \$ amount of reward fees}}{\text{Maximum \$ amount of penalty fees}}$$

Figure 3

Break-Even Points ("T" Chart)

Source: Developed by RADM J. L. Howard, Director of Procurement, Office of the Assistant Secretary of the Navy in conjunction with a member of his staff, Mr. William J. Platzer. Interview with William J. Ryan, Planning Branch, Director Chief Naval Material, Procurement, November 25, 1966.

Change in Contractor Performance	Associated Change in Fee or Profit
Cost Change of $A	$ X
Performance Change of B Miles	$ X
Delivery Change of C Weeks	$ X

Showing: That the change in contractor performance, Cost A, Performance B. or Delivery C, which will net a given change X in profit or fee.

Fig. 3.--Break-Even Points ("T" Chart)

If this equation is in balance, the rewards and penalties to the contractor reflect the worth to the government, and if the target performance and delivery are worth the target price, price and worth will be in balance at the parameters of performance and delivery.

9. The realistic effectiveness of the assigned incentives can be checked by computing the percentage of total fee which should be allocated to each of the incentivized elements. This check is based on the concept that the ratio which the maximum incentive reward or penalty assigned to any one incentivized element bears to the total maximum reward or penalty assigned to all elements, should be equal to the ratio that the cost change necessary to effect that maximum reward or penalty bears to the total cost change necessary to effect the contract total maximum reward or penalty. This concept can be expressed in terms of an equation:

$$\frac{\text{(a) Maximum reward or penalty for cost, performance or delivery}}{\text{(b) Contract total maximum reward or penalty}} = \frac{\text{(c) Increase or decrease in cost to effect (a)}}{\text{(d) Total increase or decrease in total contract cost necessary to effect (b)}}$$

The following exercises must be performed to make this computation:

(1) Define the cost swing:

(a) Reductions = R

Cost efficiency (maximum) = $ less than target cost at target performance and delivery = Cr

Performance (minimum) = \$ less than target cost = Pr

Delivery (latest) = \$ less than target cost = Dr

Total negative cost swing = Cr + Pr + Dr = R

(b) Increases = I

Cost efficiency (minimum) = \$ more than target cost at target performance and delivery = Ci

Performance (maximum) = \$ more than target cost = Pi

Delivery (earliest) = \$ more than target cost = Di

Total positive cost swing = Ci + Pi + Di = I

(c) Total cost swing = - R to + I

(d) Percent of cost swing allocated to elements:

$$\text{Cost} = \frac{Cr + Ci}{R + I}$$

$$\text{Performance} = \frac{Pr + Pi}{R + I}$$

$$\text{Delivery} = \frac{Dr + Di}{R + I}$$

(2) Define the fee swing:

(a) Rewards = A

For maximum cost efficiency = Ca

For maximum performance level = Pa

For earliest delivery = Da

Total fee reward swing = Ca + Pa + Da = A

(b) Penalties = F

For minimum cost efficiency = Cf

For minimum performance level = Pf

For latest delivery = Df

Total fee penalty swing = Cf + Pf + Df = F

(c) Total fee swing $= +A$ to $-F$

(d) Percent of fee swing allocated to elements:

$$\text{Cost} = \frac{Ca + Cf}{A + F}$$

$$\text{Performance} = \frac{Pa + Pf}{A + F}$$

$$\text{Delivery} = \frac{Da + Df}{A + F}$$

(3) If each element of incentive fee is properly balanced against the cost for attaining that fee, the following equations will be balanced.

(a) Cost:

$$\text{Award} = \frac{Cr}{R} = \frac{Ca}{A}$$

$$\text{Penalty} = \frac{Ci}{I} = \frac{Cf}{F}$$

(b) Performance:

$$\text{Award} = \frac{Pi}{I} = \frac{Pa}{A}$$

$$\text{Penalty} = \frac{Pr}{R} = \frac{Pf}{F}$$

(c) Delivery:

$$\text{Award} = \frac{Di}{I} = \frac{Da}{A}$$

$$\text{Penalty} = \frac{Dr}{R} = \frac{Df}{F}$$

(4) The percentage of the total incentive fee pool that should be associated with each incentivized element of the contract then can be derived from the following equations:

(a) The percent of the incentive fee pool to be allocated to cost $= \dfrac{Cr + Ci}{Cr + Ci + Pr + Dr + Di}$

(b) The percent of the incentive fee pool to be allocated to performance $= \frac{Pr + Pi}{Cr + Ci + Pr + Pi + Dr + Di}$

(c) The percent of the incentive fee pool to be allocated to delivery $= \frac{Dr + Di}{Cr + Ci + Pr + Pi + Dr + Di}$

If all of these equations balance, the incentives are balanced. If valid worth and cost analyses were performed and incorporated into the incentive fee structure, the incentive structure will dictate that any trade-offs made will not lessen the cost-effectiveness of the procurement.

Planning Other Positions

Returning to the contractor's hypothetical bid, it is now assumed that the contracting officer is only concerned with the target cost position as shown in Figures 1 and 2, the "most likely" position. If reasonableness, itself, is a desirable goal, then reasonableness may be judged on the basis of probability of occurrence of such cost and thus form the basis for the negotiation objective.[19] The most reasonable expectation for a cost to occur on a certain level is when the chances are as great that the contractor will overrun the cost at this point as that he will underrun it. This may be called the "most likely" position or the 50-50 position. Since this is the most reasonable position to take, it becomes the best

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[19] U. S. Department of Defense, Armed Services Procurement Regulations, March 1, 1963, 3-801-1.

objective to choose.

The usual price elements on which this judgement may be made are direct material usage and prices, direct labor usage and rates, overhead and general and administrative costs, direct engineering and tooling manpower usage and rates.[20] There may be other elements depending on the complexity of the procurement. Each element would then be considered separately by the appropriate analyst and in each case determine the 50-50 point. If the direct labor hours for production are estimated on the basis of a learning curve, the analyst would determine whether a straight-line projection from historical cost would represent a 50-50 average cost or whether a flatter or steeper projection is more reasonable.[21] This decision would require a careful weighing of the assumptions which each alternative choice contained, but in each case the decision would be based on an estimation of the chances of exceeding or underrunning the estimate. The point where the chances are considered equal is where the choice would be made. The summation of the 50-50 points for all the elements would represent the total cost objective. When a reasonable estimated profit is added to the total, the result is a price objective.

When negotiating a price based on a straight fixed price type of contract, it is usually essential to plan more than one position. Other positions are necessary so that the government

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[20] Defense Procurement Handbook, op. cit., X, pp. 1-58.

[21] Ibid., pp. 22-28.

negotiators may have some "bargaining room" or have the opportunity to "feel out" the contractor through the interchange of information in the negotiation process. The objective is the important position to plan with other positions planned as supports to help attain the objective.

Beside the target cost objective, the next most important position is the "optimistic" or minimum reasonable price position. It indicates the basis for the first counter-proposal, if one is planned, and also shows the amount of concessions necessary to reach the objective.[22] The distance from the minimum price position to the objective is the bargaining space the negotiators have chosen.

The minimum price position can be analyzed on the same basis of reasoning as the target cost objective. It is an error to believe that an arbitrary figure of a "nice low amount" is suitable as a minimum position. The view is often expressed that the time spent in analyzing an exact point is not justified because the negotiator does not intend to settle on this price anyway.[23] But the risk of an arbitrary price position lies in the fact that unless a position is a defensible one, the negotiator proposing the arbitrary position may lose respect when the opposition asks him to justify his position.[24] Once

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[22] Rule, op. cit., pp. 25-29.

[23] Interview with Peter J. Thomas, Chief, Price/Cost Analysis Branch, Defense Contract Administration Services Regional Office, Chicago, January 24, 1967.

[24] Ibid.

a negotiator has lost stature, it is difficult to win subsequent points in favor of his position. The minimum point must therefore be selected with care and due consideration for the facts of the procurement. In this case the question may be asked, "What is the lowest probable cost incurrence?".

It must be recognized, of course, that the chances of incurrence are far below the 50-50 level and that the contingencies on which the probable incurrence of cost are based are weighted heavily in favor of the buyer. Yet, it is a defensible position. The government negotiator may choose a higher position than the lowest probable incurrence and thus give himself a more easily defensible position. The point of actual choice of the minimum may well depend upon how much bargaining room a negotiator needs below his objective. If he wants to give himself a 25% probable incurrence, such a position can be more easily sold than on the 10% level.

To choose a "pessimistic" position, or the maximum reasonable target cost, may be necessary even though the negotiator hopes that he will not need to go beyond the objective. Since the objectives of both opposing teams may not necessarily coincide, in fact, it would be sheer coincidence if they did, one or both teams may need to go beyond their planned objectives. Then too, a negotiation may develop into a contest of bargaining strengths. If this happens, the maximum position becomes very significant, for it is at this point where the negotiator chooses not to go beyond, and therefore represents

a take-it-or-leave it point.[25]

The maximum position, as in the case of the other two positions, can be determined on the basis of probability of cost incurrence. The question to be raised in this case, to aid the judgment of the analyst, is: "What are the chances of the occurrence of certain contingencies and how high will the cost level consequently be?". The negotiator may wish to use a 25% level or one chance out of four as a guide. This level may need to be modified by the consideration of strategic factors such as the amount of withholding power of the government, the urgency of the procurement needed and the number of alternative sources available. The answers to these questions will help determine the point at which negotiations would be broken off rather than continuing. Although the goal of every negotiation is agreement, not all negotiations should necessarily end up with agreement. There are occasions when no agreement is better than an agreement regardless of the original intention. The government negotiator still has the responsibility to the government to contract for air and reasonable prices.[26]

The Basic Positions

When planning the three basic positions, the analyst's working paper would generally include the following information:[27]

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[25] Ibid.

[26] Interview with Frank M. McDade on January 23, 1967.

[27] Defense Procurement Handbook, op. cit., X, pp. 7-61.

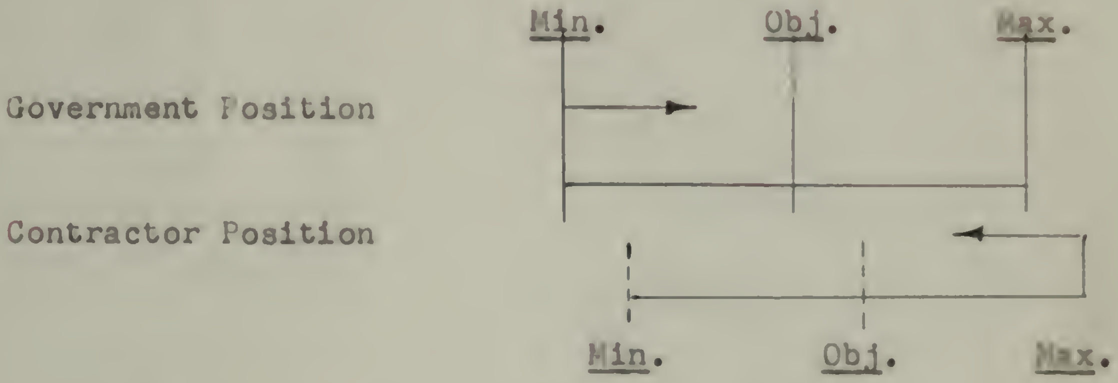
PRICE ELEMENT	POSITIONS		
	OBJECTIVE	MINIMUM	MAXIMUM
Direct Production Labor Hours	XXX	XXX	XXX
Direct Labor Rates	XXX	XXX	XXX
Direct Labor Cost	XXX	XXX	XXX
Direct Material Usage	XXX		
Direct Material Price Per Unit	XXX		
Direct Material Cost	XXX	XXX	XXX
Direct Engineering Cost	XXX	XXX	XXX
Direct Tooling Labor Cost	XXX	XXX	XXX
Production Overhead Cost	XXX	XXX	XXX
Engineering Overhead Cost	XXX	XXX	XXX
General and Administrative Cost	XXX	XXX	XXX
Other Costs (Depending on Accounting Breakdown)	XXX	XXX	XXX
Total Cost Positions	XXXX	XXXX	XXXX
Profit	XXX	XXX	XXX
Total Price Positions	XXXX	XXXX	XXXX

The price element categories depend upon the accounting information available or other convenient ways of categorizing cost elements such as "Start-up Costs" or "Plant Rearrangement". The analyst should have supporting exhibits for each major category with additional supporting analytical data where needed. Since the objective is the most important position, it would be best to calculate this column first, for it permits the analyst to use a single standard of judgment, the 50-50 standard, for each category of cost. When he has calculated each position separately in turn, he has before him the price range and the objective within the range. Beyond this he must estimate the contractor's positions and his probable range.

Since he already has a proposal from the contractor, he knows his maximum position, but the remaining contractor's positions will remain hidden or unannounced during the

negotiation session. However, it may be necessary to revise the estimate of those positions as the government negotiator gets a "feel" for these hidden positions as the negotiation progresses.

In the planning stage, the government negotiator therefore faces a position as follows:[28]



(Dotted lines are positions unknown to the government negotiator.)

From the seller's viewpoint the maximum would actually represent his minimum and the minimum would represent the maximum price concessions. For convenience the nomenclature will be used from the buyer's viewpoint. If the two objectives are closer or when they coincide the task of the negotiator is thereby greatly simplified. Nevertheless, the task of each team is to use techniques which will cause the other side to move from initially announced positions. This requires further

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[28] Interview with Peter J. Thomas, Chief, Price/Cost Analysis Branch Defense Contract Administration Services Regional Office, Chicago, January 24, 1967.

planning.

The process of "feeling out" unknown positions may require taking other positions before the objective is reached. If the basic approach is to be logic or the reasonableness of positions instead of bargaining strength, then communications will be based on the logic of the estimates and the assumptions made. In such an event, it may be best to announce the position representing the negotiation objective quite soon, since this position is the most logical one. But if the contractor is likely to take stands based on his bargaining strength, it is better to move more slowly to the objective since a great deal of "feeling out" is necessary. In this way, the communication will be based on estimating the contractor's attitudes and developing ways and means of countering the basis for such attitudes. When bargaining strength is the basic approach, a single jump from the minimum to the objective may be interpreted by the seller as bargaining weakness. Or else it may indicate to him that the government's objective is higher yet and that further concessions will be forthcoming. Thus, the basic approach will determine whether additional positions should be planned.[29]

Recognizing Issues

Communication around the negotiation table is centered around issues. If information or data were actually facts,

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[29] Ibid.

negotiation would be unnecessary since the information would be known to be true by both parties leaving nothing to disagree with. It is therefore assumed that a good portion of the information is subject to disagreement, and it is this information which must be organized into issues.[30] Issues can therefore be considered as information or data about which people take sides, negatively and positively. At the negotiation table opposite stands are taken because negotiation, by definition, implies participation by people with opposite interests in certain aspects of the contract, such as price.

If the subject matter of communication during negotiation is mostly debatable information, it is extremely important to recognize, and organize this subject matter in terms of issues. Recognition, itself, may enhance the chances of success. A list of anticipated issues may be made with positive and negative stands selected according to the best interests of the government objective. The team can now organize the information previously gathered in support of the stands taken, listing it point by point as supporting data under the various issues as the following diagram illustrates:

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[30] Defense Procurement Handbook, op. cit., IX, pp. 39-40.

Issue: Direct Labor Production Hours[31]

Govt. Position: 500 hours	Contractor's Position: 700 hours (per proposal)
Supporting data:	
Learning Curve of 68% indicated More experienced labor indicated for future, fewer change orders anticipated	Contractor's slope: 75% Same labor mix Same as in the past

In this manner, each issue can be organized and diagnosed. When the cost analysis approach is taken to measure reasonableness of a price, the issues will coincide closely to the price elements. There may be instances where there may be several issues concerning a single element. For example, the manufacturing overhead may indicate an issue on the question of the amount of overhead and another issue on the basis of allocation and still another on the question of volume.[32]

An arrangement of issues in this manner will provide a guide for the negotiator to follow when presenting his case, and if space is provided to make notes, it will serve also as a progress sheet during negotiation.

A careful screening job is necessary to make sure that issues are realistic. Non-realistic issues may creep in unintentionally. This can be avoided if it is remembered that

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[31] H. R. Kroeker, A Handbook of Learning Curve Techniques, Ohio State University Research Foundation, 1961.

[32] U. S. Department of the Navy, Office of Naval Material, Negotiators Handbook, NAV EXOS P-1001, March 1958, pp. 25-36.

issues are resolvable and that the definite decision can be made concerning them. There are times when an accusation may have the appearance of an issue. For example, if the government contractor accuses the contractor of being a high cost producer and the contractor denies it, it is doubtful that this question could be resolved. It is also doubtful whether there is much to be gained if it is resolved.

The more pertinent issue is whether the contractor should use 500 man hours per unit rather than the general question of being a high cost producer. By emphasizing the important issues, time is not wasted and usually this allows the details to fall in line after such issues are resolved.[33]

Planning Strategy

Decision-making in negotiations is an area distinct from usual business decisions. Business decisions are normally made by people who are on the same team. Negotiation decisions, on the other hand, are made while the organized opposition is present in the process of decision-making. This kind of procedure calls for strategy to promote favorable attitudes and consideration of viewpoints held by one side of the two-sided decision-making process. The word strategy may be regarded to mean the out-maneuvering of an opponent by shrewdness or to use someone else to one's own advantage. But it may also be used to gain a fair and reasonable objective, and it is in this sense that the term is used in government procurement negotiation.[34]

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[33] Defense Procurement Handbook, op. cit., IX, pp. 39-42.

[34] Ibid.

Strategy in the use of issues should be planned carefully. One of the simplest ways of planning strategy concerning issues is to arrange them according to their relative importance. The strategy then may be to start with the least important issue and in turn work toward the more important. Concessions, then, will have been made on less important issues with the hope that fewer concessions will need to be made on the more important. The issues may be arranged and presented so that when a concession has been made by the opposition on an issue, he may find it necessary to make a concession on a point in the next issue in order to be consistent. Then again, they may be arranged according to anticipated ease of reaching agreement. Take the issue first in which there is the greatest likelihood of agreement and thus create an atmosphere of agreement and cordiality as the team moves to issues in which there is anticipated less probability of agreement.

A good strategy is a flexible one.[35] Strategy in the use of basic positions should also be planned. Three alternative suggestions may be made with regard to the government team's revealing of basic positions to the opposition: (1) reveal no positions, (2) reveal only one initial position, the minimum, and (3) reveal two positions, the minimum and the objective.[36]

If the first alternative is chosen, the entire negotiation

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[35] Ibid.

[36] Interview with Frank M. McDade, Director, Directorate of Contract Administration, Defense Contract Administration Regional Office, Chicago, January 23, 1967.

proceeds with no counter-proposal from the government team. The strategy in this case is to work from the contractor's initial proposal and to ask him to justify his position. The government team's strategy is to counter the justification with the hope that the contractor team will choose a more favorable position because their first position couldn't be justified. As the contractor thus moves from one position to another, each move based upon the fact that he could not justify his previous position, the government negotiator will agree at the point where the contractor's last offer coincides with the government's objective. This kind of strategy may work only when the contractor bargains from a weak position, such as urgently wanting the business or when the contractor considers the price less important than the possibility of follow-on-procurement. This is usually regarded as "buying in" and may be the explanation for his yielding readily.

On the other hand, this may be a useful strategy when it is used only initially after which the government team switches to another strategy. The logic of this strategy is to get the other team to move off their initial position. After the contractor has conceded enough to bring them at least within the government's maximum position, the government team changes to the second alternative strategy. This combination of strategies may be necessary inasmuch as any concessions made from an unrealistic position are unreal concessions. The duty of the government team is to bring them down far enough until any exchange of concessions represents concessions on both parties.

The second alternative, revealing the minimum position as the initial counter-proposal by the government is another commonly used strategy. A counter-proposal permits the government team to take the initiative because it gives them an opportunity to promote a viewpoint and to sell a position aggressively. Good salesmanship techniques are as important in selling positions as they are in selling commodities, for the same psychological advantages can be gained in either case. Even though the counter-proposal is not the position the government team intends to settle on finally, the better the selling job on this position, the easier to sell the objective.[37]

The purpose of the counter-proposal is to make it easier to settle on the objective. It is a point from which to make concessions, and the strategy of timing the moves and the size of jumps from the minimum to the objective should be carefully planned.[38]

The last strategy involves an element of risk for the negotiator using it. The bargaining space he has given himself is between two announced positions, and although the objective is not exactly a take-it-or-leave-it position, it is a position to be defended to the end if possible. Since it is announced early in the session, the negotiator must have a great deal of confidence in this position. To the extent that close

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[37] Ibid.

[38] Defense Procurement Handbook, op. cit., IX, p. 41.

estimating is possible and thus confidence established in the position itself and the negotiator has confidence in his ability to sell this position, the strategy may be a highly successful one.

Several advantages accrue from the use of this strategy. It diminishes a great deal of so-called haggling and struggling from one position to another when both teams are really looking for the one best solution. Why not talk about the best solution from the very beginning when this is what is sought? When both teams are looking for the most reasonable solution there is no reason to take positions which are less than most reasonable. When one or both teams are seeking solutions based on bargaining strength then this strategy would probably be less effective.

The choice of strategy concerning positions can be determined only after a close examination of circumstances. The following conditions may enter into this kind of determination: (1) the degree of eagerness by the contractor to obtain the contract, (2) the attitudes of reasonableness versus the desire to use bargaining strength to advantage and (3) the personal abilities of the negotiators.

The first strategy probably works best when the first condition is present. The second strategy would be more appropriate when the second condition points to the non-reasonable approach or when there is a doubt in the minds of the government negotiators as to which approach the contractor will take as in the case of dealing with a contractor for the first time. Initial procurement, as compared to follow-on procurement,

also points to the use of this strategy even though the government has dealt with a contractor previously. In any event when, in the judgment of government negotiators, the estimates are considered unreliable or the reactions of the contractor cannot be judged with any degree of accuracy, this strategy provides the necessary bargaining space so that movements can be made with caution. The third strategy works best when conditions (2) and (3) indicate the approach of reasonableness and the abilities of the negotiators are such that they can proceed with a maximum degree of confidence.[39]

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[39] Interview with Frank M. McDade, Director, Directorate of Contract Administration, Defense Contract Administration Regional Office, Chicago, January 23, 1967.

CHAPTER III

THE NEGOTIATION SESSION

The Exploratory Session

A negotiation team's objective, its diagnosis of the issues and the position it takes prior to the negotiation session are based upon the preliminary information obtained from the contractor's proposal itself and from the price-cost analysis provided by DCAA and DCASR. Although every effort for complete clarification is made by the latter activities, such positions or objectives may not be firm until an opportunity has been provided to the government team to question the contractor concerning the various aspects of the proposal or other related and relevant facts. The questioning may reveal differences of interpretations of the information, or it may reveal problem areas which need clarification. Often this can be accomplished by the government team through the DCASR representative but many contractors may be reluctant to furnish complete information to a government representative who they know will not be part of the negotiation team. This may be particularly true if the information was planned to be used as a concession later during the negotiation session.

The purpose of the exploratory session, if one is necessary at all, is to test the realism of the pre-negotiation

objective.[1] The government team should plan its questions and discussion on the basis of meeting this test. Certain costs, for example, may be understood only after questioning the specific method of production to be employed. Then, too, the proposal may not have been clear on the proportions of certain metals to be used in the construction of the item. Or, the contractor may have a fundamental misunderstanding of the engineering or tooling required.

In the process of arriving at the tentative objective prior to negotiation, the government team should make a list of all the areas in which there is any doubt. When information received from government sources is inconsistent with the information received from the contractor, the contractor should be questioned thoroughly on such points. It may be good strategy at this stage not to reveal any differences of information but this can be used most effectively as indicators to show where questioning needs emphasis.[2] An important area where questioning would need special attention is that of discovering the basis of assumptions made for the projections of direct labor hours and rates, material prices, scrap rates or overhead rates.

Care should be taken that the questioning does not lead to

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[1] U. S. Department of Defense, *Defense Procurement Handbook*, U. S. Army FM 38-3, U. S. Navy NAVMAT P-12410, U. S. Air Force AFP 70-1-6, Defense Supply Agency DSAH 4105.1, 1 July 1965, II, p. 40.

[2] Gordon Wade Rule, "The Art of Negotiation", (unpublished, private printing 1962), pp. 20-24.

argumentation, for to do so would destroy the purpose of the exploratory session. It is also very important not to reveal the negotiation team's pre-negotiation position, otherwise it might be difficult or embarrassing to change positions following the exploratory session. The same principle holds true when making statements to other government personnel. Strong statements may be occasionally made by members of the buying team when anticipating negotiations with a certain company. Such statements, when made, have the effect of "taking a stand" which may be entirely unrealistic when all facts are known and would then represent a point from which retreat may require a lot of explaining. If a team wishes to reveal its pre-negotiation position to other government personnel, it should be clear that such a position is only a tentative one. If this is not done there may be a temptation to take the easier course and adopt the tentative position in spite of its being unrealistic.[3]

The length of the exploratory session may depend entirely on the amount and type of information needed. As previously mentioned, there may be occasions when no exploratory session is necessary. After receipt of the contractor's proposal and the subsequent receipt of the pricing package from DCASR, further clarification may not be required. A thorough price-cost analysis reduces the amount of time necessary during the negotiation session in fact-finding. On the other hand, the

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[3] Interview with Peter J. Thomas, Chief, Price/Cost Analysis Branch Defense Contract Administration Services Regional Office, Chicago, January 24, 1967.

exploratory session may well occupy half the negotiation time. This would hold true when specifications are not very clear or when the contractor's proposal contains items which are not properly supported. It may also occur when the proposal differs substantially from facts gathered in the pre-planning phase from DCAA and DCASR.[4] In any event, this part of the session should continue until there is a meeting of the minds concerning the facts of the case. Without this common understanding of the facts, neither the position nor the objective for negotiation can be realistic.

The basic communication skill during the exploratory process is questioning, probing, listening and understanding. Since human beings are involved in communication, variations are necessary to meet the human need. In some cases it may be advisable to plan questions in detail, as in the case of an interview, until all information is obtained. In other instances the non-directed interview approach may be used to advantage. The questions in this case are broad but designed to stimulate broader responses. This technique, when used in negotiations, may often produce more information in the form of unsolicited answers than the detailed questioning method. The method to be chosen depends on the personality of the person to whom the questions are directed and the ability of the government negotiator to evaluate the contract negotiator's

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[4] Ibid.

personality.[5]

When questions receive vague or guarded answers, it may be necessary to use a probing technique whereby a series of questions concerning the same subject matter are asked with each successive question digging deeper in order to solicit an adequate answer.[6] Probing may also include the different approaches or ways of asking the question. If the answer is not satisfactory, ask it in another way, use different approaches, postpone it for a while and phrase the question differently until adequate answers are forthcoming--or else know why an adequate answer is not given.

Listening is as vital to communication as talking. Inadequate communication may often be attributed to inadequate listening, perhaps more often than insufficient talking. In the exploratory session the art of listening is of special significance. It is that part of the negotiation in which the government negotiator's chief occupation is to listen and absorb answers. Perhaps the negotiator may feel subconsciously that he has lost the initiative when he isn't talking, but his initiative may be assured by his directing the questions.[7]

Unintentional disputes may occur frequently because of a lack of understanding. One approach or technique of assuring the understanding of a point is to rephrase it or by asking

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[5] Ibid.

[6] Defense Procurement Handbook, op. cit., IX, p. 40.

[7] Interview with Peter J. Thomas, January 24, 1967.

whether his understanding is correct. Meanings or differences of interpretation by negotiators may cause by-passing the intended meaning and thus common understanding is not achieved. When prejudices held by negotiators cause lack of understanding, it must be realized that biases of this kind should be set aside deliberately in order to achieve understanding. This is not an argument in favor of accepting the opposition's viewpoint but rather that of understanding it. For without this understanding, a viewpoint may be hard to counter effectively and it may lead to fruitless and unintentional arguments.[8]

As a matter of reminder and emphasis, the exploratory session is strictly exploratory. In the process of questioning, there may be a strong temptation to counter a contractor's position as he explains it. But to do so would probably destroy the purpose of exploration. The negotiator may suddenly find himself in the midst of negotiation when his intentions were only fact-finding. This may also produce the additional danger of being disorganized in his approach because he finds himself inadvertently negotiating points which were planned to be used later. Also, he may forget to pursue the remainder of the exploration from the point where negotiation began. Therefore, the negotiator will have lost in two respects; his negotiation approach becomes disorganized and his exploration is incomplete.[9]

The exploratory session should not close until the

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[8] Ibid.

[9] Ibid.

government negotiators have accomplished their purpose. They should have (1) tested the realism of the issues and positions planned in the pre-negotiation planning period, (2) determined, by the many questions asked, the basis for the contractor's position, and (3) determined the contractor's probable stand to be taken on issues and the relative importance he is likely to place on each.[10] When this purpose has been accomplished a recess is then in order so that the team can re-assess positions, issues and strategy. The exploratory session has offered the government negotiator the advantage of a testing ground before actual negotiations, which should enable him to enter it with a higher degree of confidence.

Conducting the Negotiation Session

Since the negotiation session is essentially a conference, it should, like all conferences, have an agenda. The content of proposals or counter-proposals determine the agenda of a negotiation conference, but the order of procedure is dependent upon the strategy chosen beforehand.[11] The choice of the agenda items should, of course, be the responsibility of both teams and it follows that each should make sure its agenda items are considered. However, the chief negotiator for the government should assume a special responsibility for leadership of the conference as a whole. Since the government initiated the

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[10] Defense Procurement Handbook, op. cit., IX, pp. 40-42.

[11] Defense Procurement Handbook, op. cit., IX, pp. 39-41.

procurement and invited the contractor to attend the conference, the government team is logically the host team and therefore the leader of this team should assume overall conference leadership. It is he who should take the initiative in moving from item to item on the agenda and steering the overall course of the conference to a conclusion.[12] It should be his responsibility to make sure there is a meeting of minds on the nature of the issue or problem being discussed and a summary of the results before moving to the next item of discussion.

Having completed the exploration session does not preclude further exploring or fact-finding during negotiation itself. Beyond the need for fact-finding, exploration during negotiations takes on another meaning. At this point its meaning is that of searching for a solution to reach agreement. The entire communication problem is that of seeking possible agreement areas or arrangements. The form of communication must of necessity be that of argumentation and persuasion since each side has an interest to represent, but beyond this there is a constant search for arrangements which will service both interests.[13]

Since all facts for the negotiators have previously been organized in terms of issues and positions which are now embodied in a case, the negotiation procedure calls for carrying out the planned strategy in regard to the buyer's case. If the

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[12] Rule, op. cit., V, pp. 38-39.

[13] Interview with Frank M. McDade, January 23, 1967.

strategy plan calls for a counter-proposal to be presented early in the negotiation session, this position should be sold by the use of the best salesman techniques the negotiation is able to muster.[14] The selling of a position requires the same finesse as that of selling a commodity. It is here where a buyer borrows the stock in trade of a salesman and both buyer and seller become salesmen of positions. To illustrate this point, the following extraction from the Department of Defense, "Defense Procurement Handbook" is provided:[15]

NEGOTIATION TACTICS AND USE

Tactic	Example of Use
--Making the Other Party Appear Unreasonable	"We've made concession; now isn't it your turn? If you persist in this, we will write your president."
--Placing the Other Party on the Defensive	"How can you justify that position--right now it looks pretty fantastic to me."
--Throwing the Blame for Inability to Compromise on a Third Party	"This would never get past our Contract Review Committee--we'd be right back here within two weeks if I let this go by."
--The Sugar-Vinegar Tactic	One team member takes an extreme position on an issue, by contrast to which the Government's actual position (stated by the negotiator) seems far more moderate and conciliatory.

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[14] Defense Procurement Handbook, op. cit., pp. 39-40.

[15] Ibid., pp. 44-45.

Tactic	Example of Use
--Appeal to Emotion	"I don't think you realize how important this equipment is to the defense of our country."
--Straw-issue Technique	The buildup of an issue on which the negotiator intends to compromise, then use it as proof of his willingness to concede, though the other party is "Unreasonable."
--Walkouts	Availability of this tactic depends on actual bargaining position. Its misuse can greatly weaken the position of the user. Correctly used, however, it may discipline and otherwise intractable company.
--Recesses	To restore communications control, to dissipate an emotional atmosphere, to discipline the intractable, to divert discussion from areas in which the user is weak, to plan adjustments in negotiation strategy or tactics, to analyze progress of the bargaining session to this point.
--Presenting Alternatives	Make offer in terms of alternative combinations of profit and contract types, alternative combinations of delivery terms, and so forth.
--Agreement and Rebuttal	"Yes, of course ... but ... or "Yes, for that very reason we feel..."

Some of the foregoing tactics are indicative of bargaining from a position of strength and may be what is needed in countering some of the disadvantages of dealing with a sole source contractor. However, those dealing with concessions, alternatives and appeals to the emotion, merit particular attention. Logic may be used to appeal to the sense of reason while persuasion may be used to make it attractive to the

emotions as well. Creating a logical acceptance within a favorable emotional atmosphere should be more conducive to successful salesmanship.[16]

Aggressive promotion of a position permits the negotiator to take the positive approach instead of a defensive one. In presenting his case, he may dwell on each issue separately to show the basis for his thinking and the reasons for the logical acceptance of such viewpoints. When the job of presenting a convincing case has been completed, the opposition should have clearly in mind the buyer-negotiator's case and the base upon which it is built.

Each argument, when it is convincing, produces an effect on attitudes. For this reason it would appear unnecessary to agree on each issue. The sum of the changes in attitude achieved while presenting the case should be reflected in a willingness to change the total position. The opposition may not acquiesce on a particular issue, but the government negotiator feels the opposition's position has been changed through his perception of a change in attitude. It may now be more appropriate to negotiate the total price rather than the elements of price. What the opposition would not concede openly may be adjusted in total price without the government team knowing to which element the concessions were made.[17]

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[16] Defense Procurement Handbook, op. cit., IX, p. 37.

[17] Interview with Frank M. McDade, January 23, 1967.

Moving Toward Agreement

Parties who intend to negotiate do not intend to take initial positions from which they refuse to move since the willingness to move toward negotiation is always a prerequisite condition for negotiation. Once parties take a stand on take-it-or-leave-it positions, negotiations have broken down. Changing position does not have to imply a sign of weakness or a sign of being illogical. It may be more illogical to maintain a position than it is to move to another.[18] Even though both sides have spent a great deal of effort to sell their original positions, it is clear that they cannot be maintained if agreement is desired. The persuasiveness of each side's case presentation should have produced some reason for moving, and if each side were equally successful, reasons should be present for both to move.

How to get the other side to move when they should move is a negotiator's dilemma. Here are two considerations provided in which this may be accomplished: domination through bargaining strength or by compromise and concessions.[19]

When a team comes to the negotiation table with the attitude that the movement toward agreement must be done by the other team, their most important tool is bargaining strength. Their entire plan of procedure would probably be that of attack, emphasizing and attacking the weaknesses of their opponent's

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[18] Ibid.

[19] Ibid.

issues and emphasizing and building up their own strength. If the seller, for example, comes to the table with this approach in mind, the buyer may have no other choice but to reciprocate. The situation then becomes a struggle for domination by both sides. The attractiveness of the reasonable objective is not the prime consideration any longer. It becomes the balancing of pressures which cause movements toward a reasonable agreement. If the balance is not equal the team having the greater advantage is demanding that yielding be done on a sacrificial basis. Sole-source sellers may frequently choose this approach for the advantage it gives them.[20]

On the other hand, the government as a buyer may also be tempted to initiate this approach when the government is the only buyer of a company's output. Then too it may be chosen because economic conditions favor one side more than the other. It should be remembered, though, that domination demands sacrifice on the part of the other team and to that extent does not produce a fair and reasonable agreement. In the long run such relationships would normally become untenable. The government when facing a seller who has adopted this approach need not reciprocate but insist on the reasonableness-of-cost approach. Changing the type of contract may help the government negotiators to accomplish this objective. In this event a good selling job would be necessary on the advantages of a particular type of contract. A special appeal should not be overlooked

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[20] Defense Procurement Handbook, op. cit., pp. 45-46.

based on the fact that public funds are being expended and therefore the sacrifices demanded are taxpayer's money.

Compromise, by definition, means a settlement by arbitration or by consent reached by mutual concessions. However, if compromise is offered on the basis of arbitrary position changes purely for the sake of short-cutting negotiation procedures, it becomes highly questionable. This may well lead to agreements which may not be satisfactory to either party. Splitting differences, for instance, is too arbitrary. There may be no particular reason for the split to be desirable. It should be remembered that the one who offers to split the difference is in reality announcing a new position of his own, and if the other side refuses to split the offer, he cannot gracefully retreat from it.[21] If the other side asks him to justify his new position he may not be able to do so since it is arbitrary.

Making compromises should be a more orderly process, for it demands that every change in position has reasons for it. The basis for compromise is in the issues on which the negotiators have clashed. If the negotiators are reasonable, they will have found good reasons for position changes. In the process of clashing, the negotiator should be as much concerned with giving the other side justification for changing as he is in selling his own case. When both sides have done this, concessions, then, have become a process of yielding to superior

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[21] Rule, op. cit., V, p. 46.

points of argument and therefore, logic. Communications, when negotiators are ready for compromise, may take the form of two teams offering each other reasons for changing positions. This provides the basis for the search for the mutually advantageous conclusion. It is based on the premise that both teams are sincere in their search, but when this condition is present, yielding positions is not meant to construe a sign of weakness nor of being illogical. The chief negotiator should summarize the reasons for the change when he is proposing a new position.[22] Here again, he should go back to the issues and show in this context the logic of the new position. These notes will be most useful when writing a memorandum of understanding before concluding the negotiation.

The Hard Core of Negotiations

Objectives made by two different teams do not necessarily coincide. When both teams have conceded to the point where each has reached their objective, concessions from these points are apparently going to be extremely more difficult. Since objectives are not announced, each team does not know when the other has reached the objective except by guessing. The hypothetical negotiation situation may well appear as follows:

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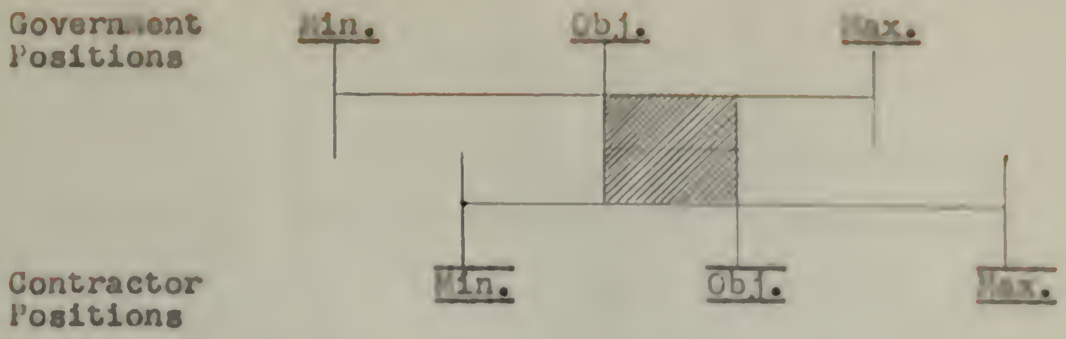
[22] Defense Procurement Handbook, op. cit., II, p. 47



The shaded area represents the hard core which may be difficult to penetrate since both have yielded by concessions as much as they planned. Negotiations may tend to become stalemated at this point, and to prevent such an occurrence there are several things negotiators may want to try. It now becomes paramount, more than ever, that negotiators have the attitude of finding a formula or solution which will serve both interests. The government team, at this point, may well re-examine the realism of its objective and also examine objectives based on alternative sets of conditions. If they decide to use another set of conditions with another objective, it provides the possibility of making another offer as a solution. For example, they may decide to offer a fixed price incentive type contract instead of a firm-fixed price contract which represented the assumption under which the negotiations proceeded thus far. The negotiator for the government may map the positions on arithmetic graph paper and would appear as shown in Figure 4.[23]

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[23] Further information concerning arithmetic graphs used for all types of incentive contracts may be found in the Department of Defense, Incentive Contracting Guide, January 19, 1965.

Figure 4

Government-Contractor Positions

Source: Arithmetic graph similar to the type illustrated in the U. S. Department of Defense, Office of Assistant Secretary of Defense, Installations and Logistics, Incentive Contracting Guide, January 19, 1965.

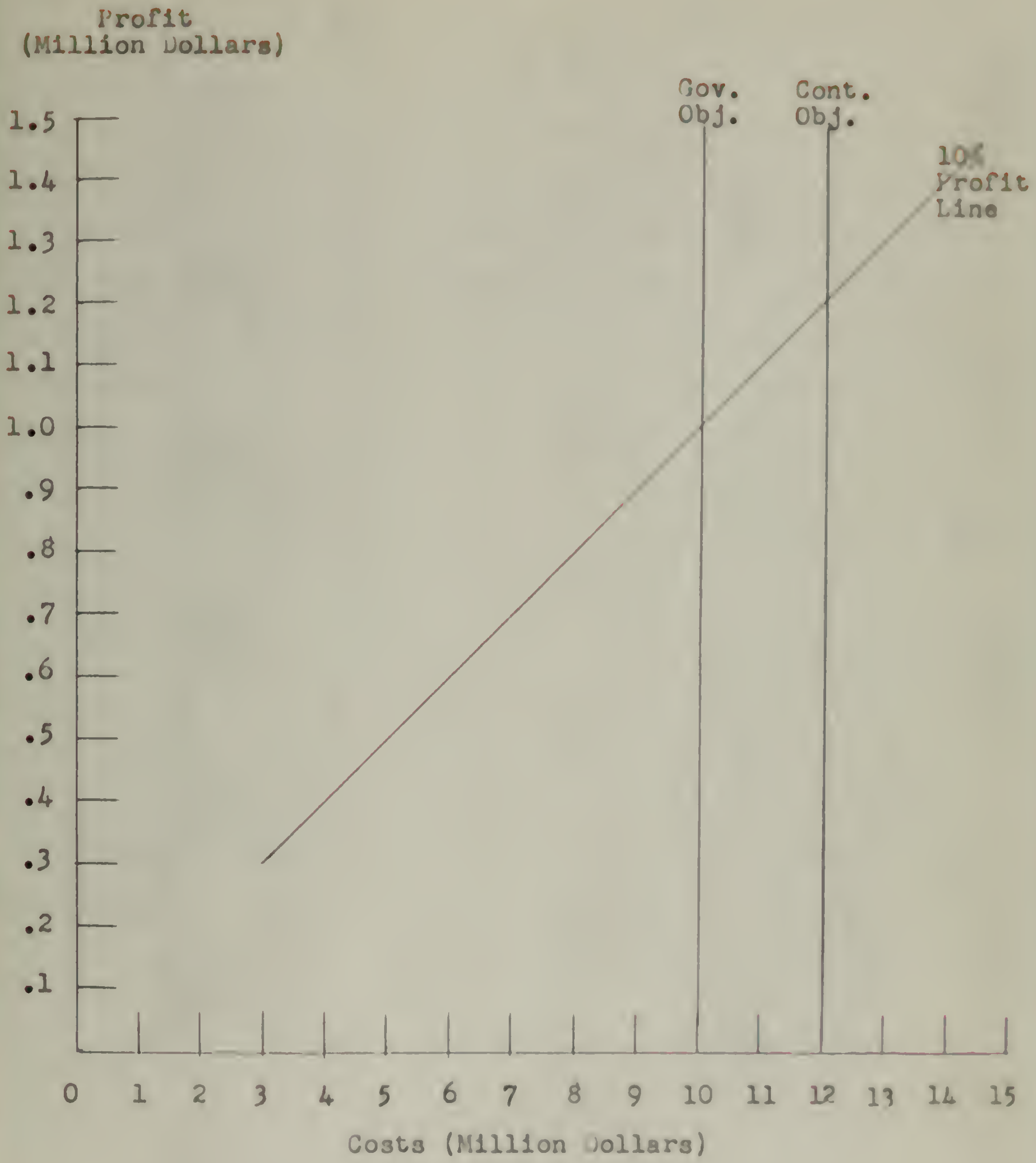

Fig. 4.--Government-Contractor Positions

Figure 4 indicates that the price objective for the government as $11 million, estimated at $10 million in costs and $1 million for profit. The contractor's objective was $13.2 million consisting of $12 million dollars in costs and $1.2 million in profits. The vertical lines indicate only the cost positions and do not represent price lines. For example, proceeding across the horizontal line to the $10 million cost and then vertically until intersecting with the 10% profit line, the vertical axis profit line will read $1 million. The addition of the $10 million cost and $1 million profit equals the government team's objective. The same procedure would apply in determining the contractor's position.

Figure 5 shows price lines in addition to cost positions. Lines A and B are price lines when profit and cost are the variables. These lines indicate what the price would be on the basis of a firm-fixed price contract where each negotiator has considered a 10% estimated profit. Line A, for example, indicates the price and profit adjustment for all points of over and underruns of cost from the $10 million cost point. Recalling that firm-fixed price contracts place 100% of the risk with the contractor, an underrun of cost amounting to $1 million dollars would mean the contractor's profit would be $2 million at a cost of $9 million. The original contract price remains firm at $11 million. On the other hand, if the overrun were $1 million, the price would still remain at $11 million but the profit would be zero, which the line indicates is the break-even point. The incentive to underrun, therefore, is the greatest possible, but

Figure 5

Sample Firm-Fixed Price Contract

Source: Arithmetic graph similar to the type illustrated in the U. S. Department of Defense, Office of Assistant Secretary of Defense, Installations and Logistics, Incentive Contracting Guide, January 19, 1965.

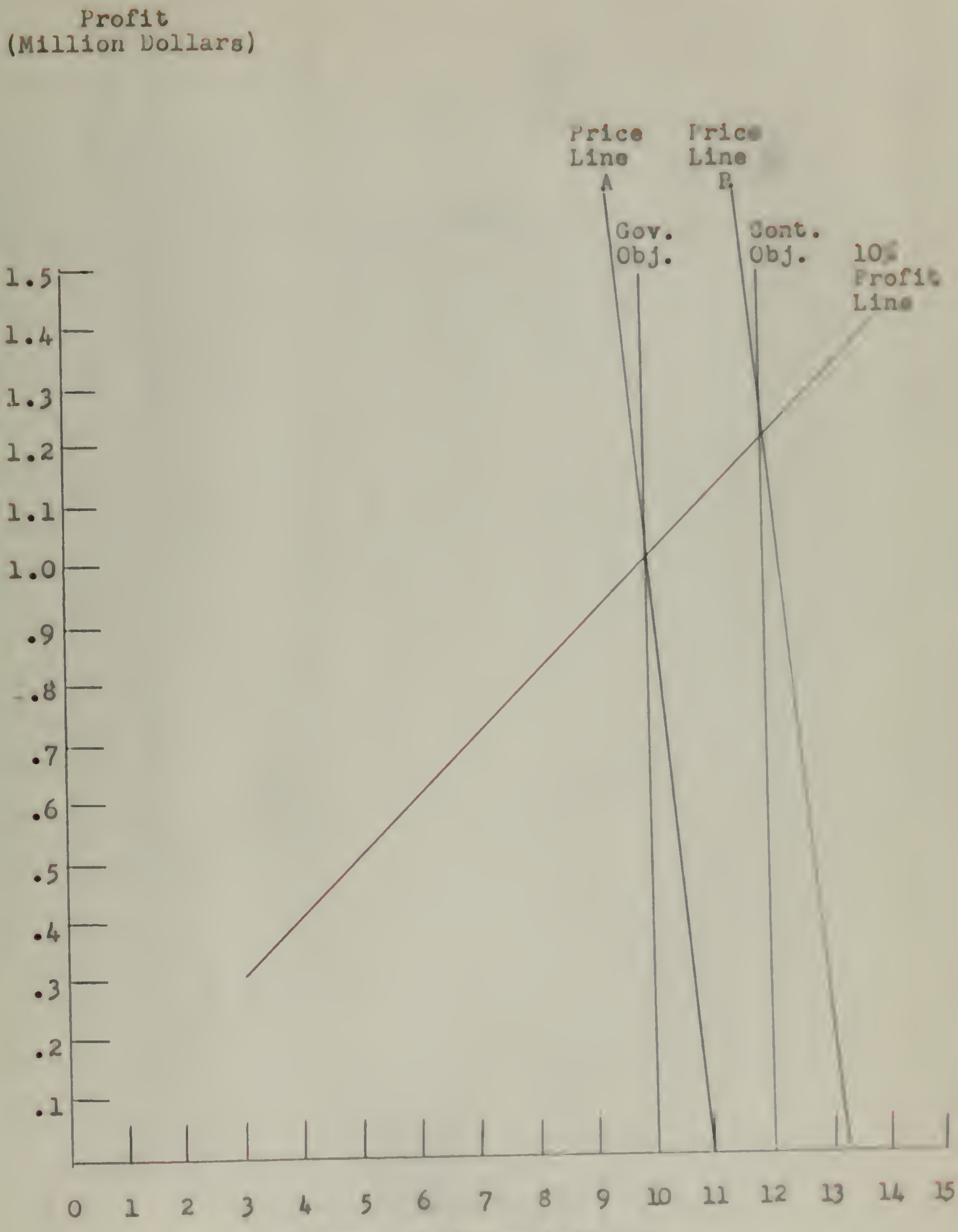

Fig. 5.--Sample Firm-Fixed Price Contract

the risk of overrun is narrowed to $1 million before profits become minus quantities. Line B measures the incentives and risks of under and overruns from the contractor's cost, objective.

During the hard core negotiations, the central question is that of the degree of certainty of the actual cost incurred, when the contract is completed, to coincide with the predicted. If the contractor cannot be convinced that the $10 million cost objective will be achieved, it may be best to offer a fixed price incentive contract in which the incentives and risks of under and overruns are shared. As previously mentioned in Chapter I, the negotiation teams must negotiate four elements under a FPI contract before awarding the contract; the Target Cost (TC); Target Profit (TP); Ceiling Price (CP) and the Sharing Arrangement (SA). Assuming that the government negotiator now desires to offer a FPI contract with the objectives of breaking through the hard core negotiations, he may offer a target cost of $11 million with an 8% target profit, or $880 thousand, and a sharing arrangement of 75/25 which means that 75% of over or underruns are absorbed by the government, and lastly, establish a ceiling price of $13.2 million. If this were offered as an alternative, the price line would change to Line C as indicated in Figure 6.

Line C measures the price at all points of under and overruns from target. If the government team has confidence that the costs are between 80% to 95% reliable and it is felt that their 50-50 point of probability is a cost of $10 million,

Figure 6

Sample Fixed Price Incentive Contract
With Skewed Confidence Limits

Source: Arithmetic graph similar to the type illustrated in the U. S. Department of Defense, Office of Assistant Secretary of Defense, Installations and Logistics, Incentive Contracting Guide, January 19, 1965.

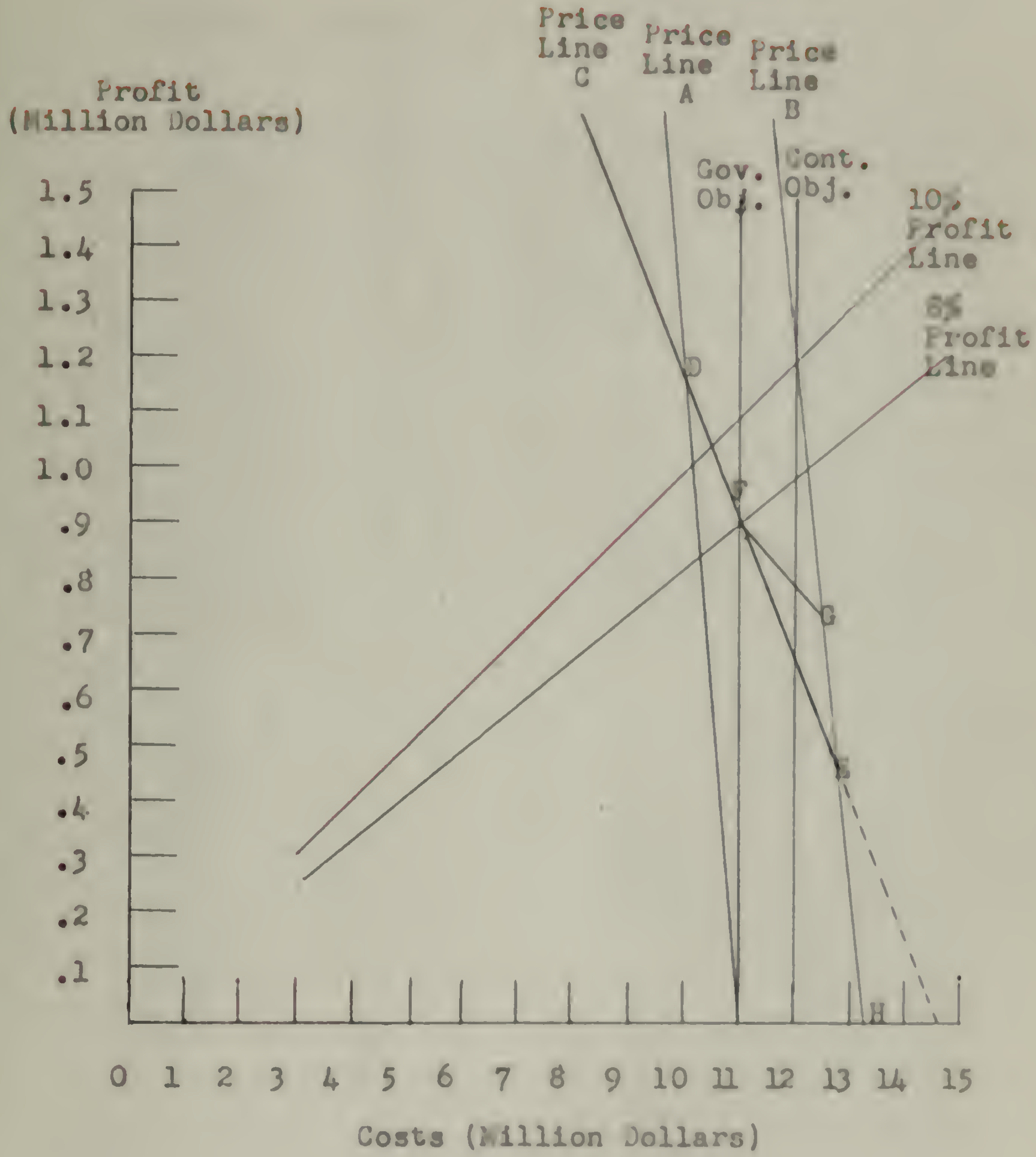

Fig. 6.--Sample Fixed Price Incentive Contract With Skewed Confidence Limits.

moving the target cost to $11 million may still result in a price close to their firm-fixed price objective as the following calculation demonstrates:

Millions	
$10.00	Actual cost at completion
.88	Target profit
.25	Incentive profit
$11.13	Final Price

In the event there is a $2 million underrun, the final price negotiation would be $10.38 million dollars:

Millions	
$ 9.00	Actual cost at completion
.88	Target profit
.50	Incentive profit
$10.38	Final Price

The ceiling price, if established at $13.2 million, (which was also the contractor's last stated position) would be the break-even point for the contractor. At this point he would realize zero profits and additionally would experience 100% of the risk for subsequent overruns.

Changing the cost objective from $10 million to $11 million and thus submitting a new counter-proposal on that basis with a different type of contract may be what is necessary to penetrate the hard core of bargaining. The art of penetrating this area requires the consideration of all possible alternatives to determine which is best suited for the circumstances under which costs will be incurred.

In the situation described above, the government negotiator

realizes that in the 75/25 sharing arrangement with a target cost at $11 million and a target profit at $ .88 million, the actual cost in the end will have to be $9.826 million with a consequent actual profit of $1.174 million (Point D in Figure 6) to yield and end price equal to his original firm-fixed price contract. This calculation is based on the formula for the price curve: Price (P) = Actual Cost (AC) + Target Profit (TP) - The Sharing Arrangement (AC-TC).[24] In the problem as stated, the condition to be met is that the price in the pricing arrangement is to be the same as that of the firm-fixed price, then P = $11. Target profit is 8% of target cost or $ .88 million. The sharing arrangement is .25. If AC = X, the formula then is $\$11 = X + .88 - .25\ (X - 11)$. Solving for X produces the actual cost of $9.826 million necessary to realize the price of $11 million.

Returning to the same situation, the contractor negotiator realizes that to accomplish his price objective of $13.2 million under the pricing arrangement offered by the government, the actual cost in the end would have to be $12.76 million with a consequent profit of $ .44 million (Point E in Figure 6) in order to yield and end price equal to his firm-fixed price offer. This would mean that possible profit percentages anticipated by the contractor would range from 3½% to any higher percentage he

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[24] U. S. Department of Defense, Office of Assistant Secretary of Defense, Installations and Logistics, Incentive Contracting Guide, U. S. Army FM 38-34, U. S. Navy NAVMAT D-4283, U. S. Air Force AFP 70-1-5, Defense Supply Agency DSAH 7800.1, January 19, 1965, II, p. 27.

can efficiently attain.

If the contractor negotiator feels strongly about the probable occurrence of a particular contingency, such as the occurrence of a change in labor mix, the government negotiator may resolve this by offering a broken curve or a flat portion in the curve (FG, in Figure 6), based upon a 90/10 sharing arrangement for this portion of the curve. This means that the government shares 90% of the cost overrun above target but only for a portion, up to point G. Confronted with this new arrangement, the contractor realizes that his cost occurrence will have to be at $12.467 million with a consequent profit of $ .733 million to realize his price of $13.2 million, bringing his profit percentage up to nearly 6%. This technique is normally used for CPIF contracts and should be avoided as much as possible since FPI pricing should be dependable enough to preclude its use.[25] Nevertheless, it is permissible to use and by offering to share such an important contingency, may bring the price to the point where the contractor considers it to be fair and reasonable. If the contractor accepts the elements as offered by the government negotiator, the ceiling price, Line C, would then be the broken line from C to F to G to H in Figure 6.

It is in the hard core area of negotiation where the real, price-differing contingencies are ironed out and pressed into an agreement which is finally suitable to both sides. If the contingencies are greater so that the differences are not within

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[25] Ibid., p. 30.

a reasonable range applicable for a FPI type, it may be better to consider further alternatives such as fixed price redeterminable types or perhaps a CPIF type. However, as suggested previously, each alternative set of contract conditions requires different objectives for the negotiators. Because the objectives differ, the proposing of alternatives offers the best means of penetrating the hard core of negotiation when otherwise the negotiators had reached their objectives.

The flexibility provided by incentive contracting may, therefore, provide the means of penetrating hard core negotiations while still providing both parties the opportunity for optimizing their interests based upon reasonable concessions. In the foregoing illustrations both parties have made concessions, and both are striving to optimize their interests. The government team in relying on their cost estimates believes the end result will be close to or less than their original firm-fixed price objective. The contractor, through concessions, has decreased his original profit estimate, primarily due to agreeing to share the risk with the government, but has the opportunity to increase profits solely on the basis of his efficiency, much the same as a firm-fixed price contract.

Wrapping the Package

When a meeting of minds has been reached on the contract price, it follows that this price represents a package which has wrapped up within it a reflection of all the issues and conditions discussed and resolved during the process of

negotiation.[26] Both parties must have a clear understanding of what is wrapped up in the price. It is, therefore, incumbent for the chief negotiator of the host team to summarize, before the final meeting closes, all the conditions and terms embodied in the agreement. If the government negotiator has kept a running account of the progress of issues and the reasons for changes in positions, he will have no difficulty in making the summarization. When the other team concurs with the summary, the negotiation is completed.

Since the proposed contract may be subject to review and approval, the negotiator may be called on to reconstruct the circumstances under which the agreement was made and to clarify the intentions of the parties. A memorandum for the files would be most helpful in providing such information at a subsequent date. This memorandum may include the pre-negotiation plans and the manner in which they were carried out during negotiation. It should be a record of analysis of the planned issues, objectives and strategy. It should contain the progress of main points during negotiation, the reasons for changed positions and the embodiment of the final agreement.[27] The summarization of reasons for positions or changed positions is especially important if a negotiator is called on to defend himself later. After-the-fact critics may view facts differently than the one looking at them before their occurrence, but if the negotiator

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[26] Defense Procurement Handbook, op. cit., IX, p. 47

[27] Ibid., p. 49.

is able to show why certain eventualities appeared to him as they did before they happened, he has grounds on which to defend himself.

CHAPTER IV

SUMMARY AND CONCLUSIONS

Overview

This paper has examined certain aspects of the concept, process and organization of negotiation and its interrelationship with incentive contracting as a negotiation technique or tool in the achievement of fair and reasonable prices for both the government and the contractor.

This does not mean to imply that incentive contracting guarantees the means for negotiating an agreement in which both parties will optimize their interests. Rather, it is the "how" it may be done in order to afford both parties a reasonable "opportunity" to optimize their objectives.

It has been shown that the negotiation process deals with a multitude of intangible influences and alternatives, which can to a degree, be minimized through quantitative analyses. However, in spite of the quantification effort, which if misused may lead to undesirable results, there still remains a number of intangible factors which are entirely dependent upon the actions and reactions of the negotiators. This paper has attempted to relate both the quantitative and qualitative aspects of negotiation as an acceptable tool in price determination.

The approach used in describing the various negotiation techniques has been to stress logic and persuasiveness, based on the interpretation of data, in order to attain reasonable solutions to issues in an effort to reach an overall agreement. By fragmentizing the proposal into sequential elements and issues, the negotiators can systematically attack the overall problem using reasonableness, compromise and salesmanship in the process.

Conclusions

The hypothetical negotiation situations presented in this paper have shown how it is possible to use incentive contracting techniques as means for negotiating an agreement whereby both parties have the opportunity for optimizing their interests. Its overall purpose has been to improve the reader's understanding and appreciation for negotiation as an art with the hope that he will share in the author's opinion that the following conclusions are valid:

- That reasonableness of prices can be assured in negotiation only when established and applied by reasonable men who intend to examine all the pertinent circumstances of the procurement.
- That negotiation does not assure but rather provides the opportunity of reasonable consideration by stressing the common advantages to both parties of any proposal and linking these advantages in such a manner that they appear to be equally balanced to

the parties concerned.

- That the element of flexibility is an important determinant in obtaining concessions leading to a mutually satisfactory agreement and that incentive contracting can provide the flexibility needed under the appropriate conditions.
- That the skills of fact-finding and data analyzation are of paramount importance in order to negotiate at an acceptable level of performance.
- That objectives be planned in terms of definite dollar amounts which reflect the evaluation of all the terms and conditions of the intended contract. When using incentive contracts the variation in total price must be compared with and be compatible to the objectives originally planned.
- That trade-off analysis, in evaluating the contract's essential elements of cost, delivery and performance, is necessary in order to assure a balance between worth and cost to the government.

It is pertinent to observe at this point, that the Department of Defense Cost Information Reporting System now in the initial stages of development is designed to provide greater accuracy in cost estimating than has ever been possible before. The negotiators will welcome any system which will improve the definition of what is truly a "realistic" cost.

BIBLIOGRAPHY

Public Documents

Armed Services Procurement Regulation, The 1963 Edition, (including Revision 21, February 1967). Washington: U. S. Government Printing Office, 1963.

Armed Services Procurement Regulation Manual for Contract Pricing, (ASPM No. 1). Washington: U. S. Government Printing Office, 29 October 1965.

U. S. Defense Contract Audit Agency. Defense Contract Audit Manual, (DCAM 7640.1); Alexandria, Virginia: U. S. Defense Contract Audit Agency, July 1965.

U. S. Defense Supply Agency. Contract Administration Manual for Contract Administration Services, (DSAM 8105.1); Alexandria, Virginia: U. S. Defense Supply Agency, January 1967.

U. S. Department of the Air Force. The Evaluation and Structuring Techniques of Multiple Incentive Contracts. Washington: U. S. Government Printing Office, August 1966.

U. S. Department of Defense. Defense Procurement Handbook, (U. S. Army FM 38-3; U. S. Navy NAVMAT P-12410; U. S. Air Force AFP 70-1-6; Defense Supply Agency DSAH 4105.1); Washington: U. S. Government Printing Office, July 1966.

___. Incentive Contracting Guide, (U. S. Army FM 38-34; U. S. Navy NAVMAT P-4283; U. S. Air Force AFP 70-1-5; Defense Supply Agency DSAH 7800.1); Washington: Office of Assistant Secretary of Defense, Installations and Logistics, January 1965.

U. S. Department of the Navy. Defense Procurement Management Course. Boston: Harbridge House Inc., 1964.

___. Negotiators Handbook, (NAVEXOS P-1001); Office of Naval Material, March 1958.

___. Survey of Procurement Statistics, (NAVEXOS P-1573); Office of Naval Material, June 1962.

___. Survey of Procurement Statistics, (NAVMAT P-4200); Headquarters Naval Material Command, June 1966.

___. *Survey of Procurement Statistics*, (NAVMAT P-4200); Headquarters Naval Material Command, September 1966.

Books

Albers, Henry H. *Organized Executive Action*. New York: John Wiley and Sons, Inc., 1963.

Argyris, Chris. *Personality and Organization: The Conflict Between System and the Individual*. New York: Harper, 1957.

Bell, Coral. *Negotiation From Strength: A Study in the Politics of Power*. New York: Knoph, 1963.

Dale, Ernest. *Modern Management Methods*. New York: World Publishing Co., 1966.

Hagen, W. A. *NOMATIC - Nomographic Aid to Incentive Contracting*. Huntsville: George C. Marshall Space Flight Center, December 1965.

Kroeker, Herbert R. *A Handbook of Learning Curve Techniques*. Ohio State University Research Foundation, 1961.

Nash, Ralph C. *Incentive Contracting*. As depicted in the *Government Contract Monograph*, (Monograph No. 7), Government Contract Program, The George Washington University, 1963.

Schein, Edgar H. *Organizational Psychology*. Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1965.

Schelling, Thomas C. *The Strategy of Conflict*. Cambridge: Harvard University Press, 1960.

Articles and Periodicals

Drucker, Peter F. "The Effective Decision", *Harvard Business Review*, v. 45 No. 1. (January-February 1967) p. 92-98.

Howard, J. L., Capt., SC, USN. "Navy Develops New Look in Advance Procurement Planning", *Navy Management Review*, v. 11 No. 6 (June 1966) pp. 6-10, 16.

Nathan, Ernest D. "The Art of Asking Questions", *Personnel*, v. 43 No. 4 (July-August 1966) pp. 63-71.

Thrall, Robert M. "A Note on Incentive Fee Contracting", *RAND Corp.*, P-3191 (August 1965) p. 1-5.

Timbers, Edwin. "Strengthening Motivation Through Communication", *Advanced Management Journal*, April 1966, pp. 64-69.

Unpublished Material

Rule, Gordon Wade. "The Art of Negotiation". Unpublished book, private printing, Office of Naval Material, Washington, 1962.

Other Sources

Defense Contract Administrative Services Headquarters, Alexandria, Virginia. Personal interview with Herbert L. Fisher, Chief, Financial Services Division, January 27, 1967.

Defense Contract Administrative Services Regional Office, Chicago. Personal Interview with Frank M. McDade, Director, Directorate of Contract Administration, January 23, 1967.

Defense Contract Administrative Services Regional Office, Chicago. Personal interview with Peter J. Thomas, Chief, Price/Cost Analysis Branch, January 24, 1967.

Chief Naval Material, Procurement, Washington. Personal interview with CDR William J. Ryan, SC, USN, Head, Planning Branch, November 25, 1966.

Chief Naval Material, Procurement, Washington. Personal interview with William J. Platzer, Planning Branch, November 25, 1966, and February 24, 1967.

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